

TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1921

No. 100

CHARLES F. WOOD AND JOHN L. MOYER, TRADING AS
THE PHILADELPHIA STEAM HEATING COMPANY,
APPELLANTS,

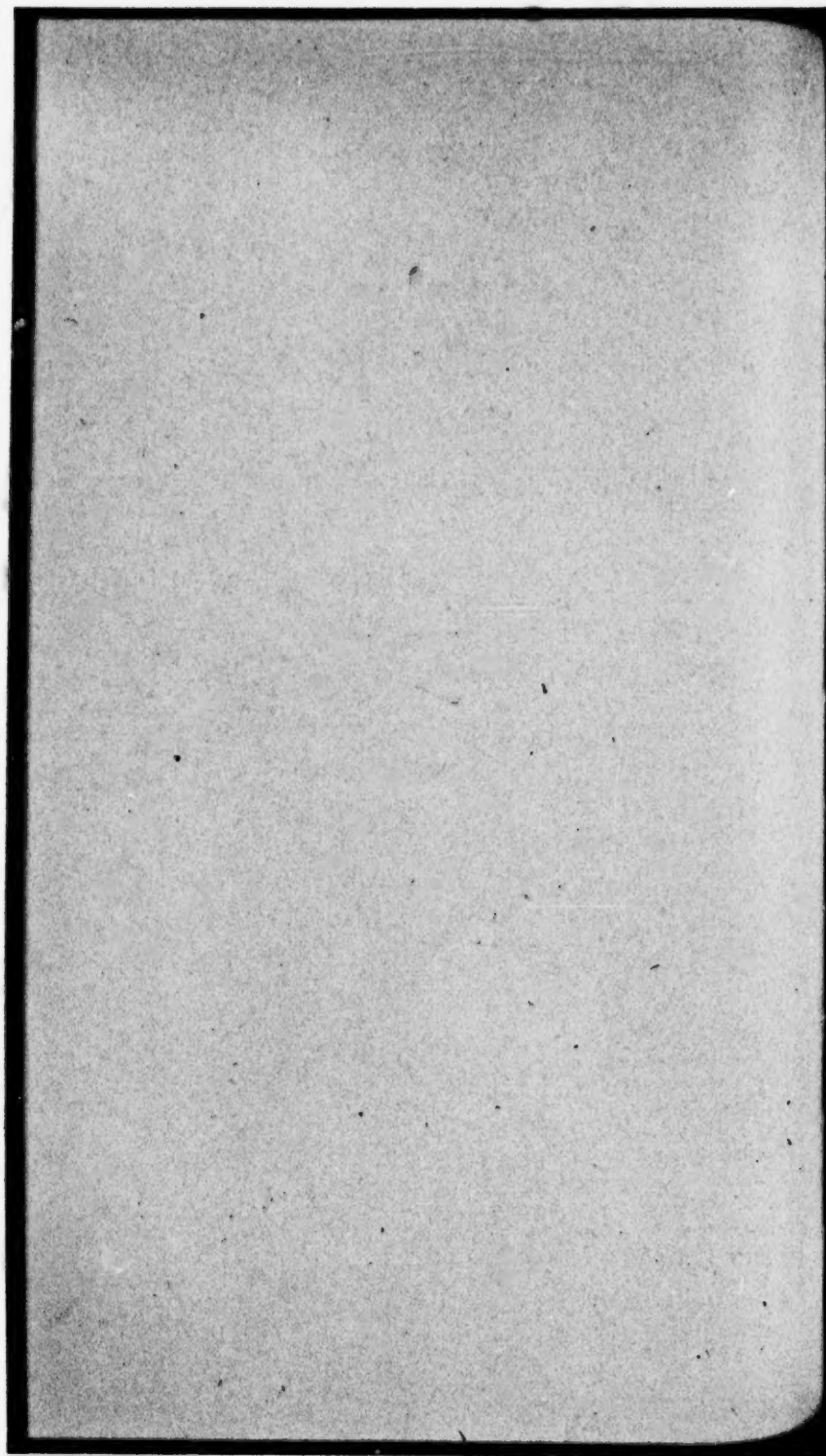
vs.

THE UNITED STATES.

APPEAL FROM THE COURT OF CLAIMS.

FILED JULY 1, 1922.

(27,792)



(27,792)

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1920.

No. 435.

CHARLES F. WOOD AND JOHN L. MOYER, TRADING AS
THE PHILADELPHIA STEAM HEATING COMPANY,
APPELLANTS,

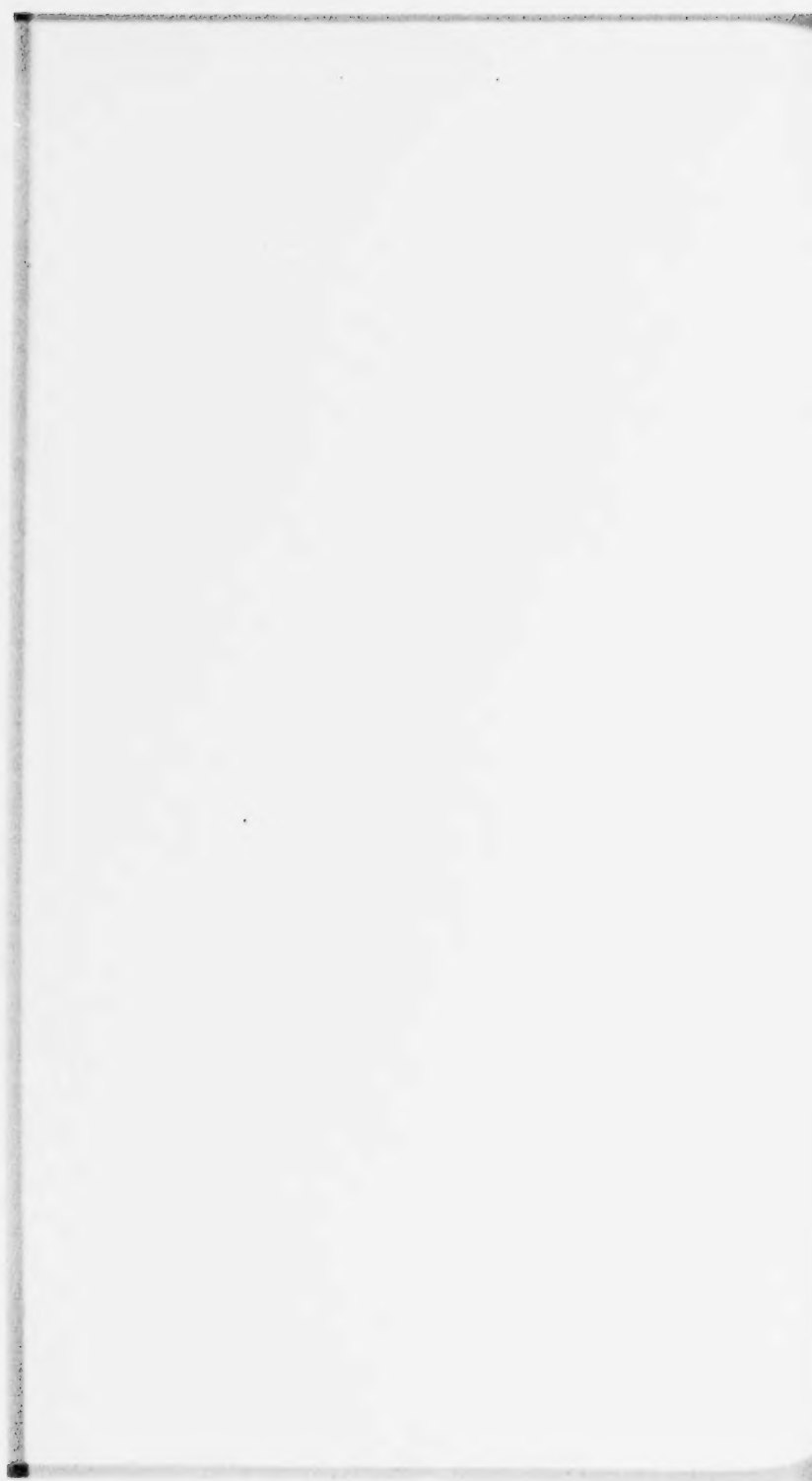
vs.

THE UNITED STATES.

APPEAL FROM THE COURT OF CLAIMS.

INDEX.

	Original.	Print.
Petition	1	1
Exhibit A—Advertisement for proposals.....	23	14
B—Proposals for original work.....	24	15
C—The original contract.....	24 <i>b</i>	16
D—Proposal for supplemental work.....	103	69
E—The supplemental contract.....	105	71
F—Bill of sale, Palmer to Wood.....	110	74
G—Bill of sale, Moyer to Wood.....	112	76
H—Bill of sale, Wood to Moyer.....	113	77
General traverse.....	115	78
History of proceedings.....	115	78
Argument and submission of case.....	115	78
Findings of fact.....	116	79
Conclusion of law.....	123	81
Judgment of the court.....	124	81
Proceedings after judgment.....	124	81
Claimants' application for and allowance of an appeal.....	124	82
Substitution of attorney.....	125	82
Clerk's certificate.....	125	82



I. *Petition and Exhibits.*

Filed November 21, 1899.

In the United States Court of Claims, Term 1898-99.

No. 21556.

CHARLES F. WOOD and JOHN L. MOYER, Trading as THE PHILADELPHIA STEAM HEATING COMPANY, OF PHILADELPHIA, PENN.,

VS.

THE UNITED STATES.

Petition.

Charles F. Wood and John L. Moyer, partners in business trading under the name and style of the Philadelphia Steam Heating Company of the City of Philadelphia, County of Philadelphia, and State of Pennsylvania, petitioners herein, respectfully represent:

1. That they and each of them are citizens of the United States,—the petitioner, Wood, residing at Wayne, Delaware County, Pennsylvania, the petitioner, Moyer, residing in West Philadelphia, Pennsylvania; that they have each always yielded true allegiance to the United States, and are the sole owners of the claims herein-after sued on.

2. That prior to the date of January 29th, 1897, these petitioners and one James A. Palmer entered into a co-partnership to conduct a business for the construction of boiler plants, steam heating and ventilating apparatuses, etc., etc., and a general engineering and contracting business; that on January 29th, 1897, the Government acting through William Martin Aiken, Supervising Architect of the Treasury Department, advertised for proposals for the erection of a boiler plant, low pressure steam heating and ventilating apparatus, hot and cold water supply system, filtering plans, etc., for the United States Post Office building at Washington, D. C., in accordance with drawings and specifications copies of which were to be had "at the office of the Supervising Architect," or "at the office of the Superintendent" at Washington, D. C.

That, on February 26th, 1897, the petitioners and the said Palmer, partners as aforesaid trading under the firm name and style of The Philadelphia Steam Heating Company of the City of Philadelphia, County of Philadelphia in the State of Pennsylvania, made a proposal in response to said advertisement, proposing to furnish all the labor and materials and fix in place complete the boiler plant, low pressure and exhaust steam heating and ventilating apparatus; hot and cold water supply and fire protection system, and

the water filtering plant, of the United States Post Office building, Washington, D. C., in accordance with drawings, numbers 331 to 345 inclusive, 456 to 463, inclusive, and 368, and the specification, for the sum of one hundred and fourteen thousand, seven hundred and seventy-three (\$114,773) dollars, copies of which advertisement, and proposal are herewith filed, made part hereof, and designated as Exhibits "A" and "B" respectively.

3. That on the 29th, day of March, 1897, the Government through Acting Secretary of the United States Treasury, W. E. Curtis, accepted said proposal, subject to the following modification, viz., a reduction of \$3,400.00 for using the "Pawl Vacuum System" in lieu of the system shown on the said plans and called for by the terms of the said specification; and on the last named date entered into a contract with the said company for the construction of the said boiler plant, steam heating apparatus, etc., etc., within two hundred and fifty (250) working days from April 5th, 1897, in and for the sum of one hundred and eleven thousand three hundred and seventy-three (\$111,373) dollars, a copy of which contract is filed herewith and made part hereof, and designated as Exhibit "C."

4. That immediately after the execution of said contract, said company arranged to begin and did begin the work thereunder, and, under the direction of the said three parties of said company proceeded with said work as provided by the terms thereof, insofar as they were allowed to do so by the Government agents and representatives, but owing to hindrances and delays caused said company by the officers and agents of the Government, for which said company was in no wise responsible, and because of changes and modifications in said plans and specification made and requested by the Government, the said contract was not completed within said time, but was completed September 18, 1899.

5. That on January 9, 1898, at the request of the Government, acting through Thomas C. Steward, Superintendent of Construction of said building, the said company tendered to the Government a proposal for "furnishing all labor and material to construct and erect the steam heating apparatus" in said building in accordance with certain revised plans and specifications, theretofore submitted by said Steward, a copy of which proposal is herewith filed and made part hereof, designated as Exhibit "D"; that on March 3, 1898, the Government, acting through Assistant Secretary of the United States Treasury, O. L. Spaulding, accepted the said proposal, to install and erect said heating and ventilating apparatus in accordance with said revised plans and drawings, numbered 335A to 342A inclusive, instead of as originally planned and laid out, using the "Powers System" of temperature regulation for the entire building, in and for the sum of \$5,092; and on the 14th day of March, 1898, the Government, acting through the said Assistant Secretary Spaulding entered into a supplemental contract with the said company to do said work at said sum, which was to

be, and was, in addition to the consideration named in the original contract, a copy of which supplemental contract is filed herewith, made part hereof, and designated as Exhibit "E."

4 That on March 26, 1898, the said petitioner, Wood, purchased for a valuable consideration, all the right, title and interest in and to the business of the said Philadelphia Steam Heating Company, from the said petitioner, Moyer and the said Palmer, and thereby succeeded as surviving partner to all the partnership business conducted by said company, including the said contract, the bills of sale and assignments, of which are herewith filed and made part hereof, designated as Exhibits "F" and "G."

7. That on March 28, 1898, the said petitioner, Wood, sold to the petitioner, Moyer, for a valuable consideration, an undivided one-half interest in and to the business of the Philadelphia Steam Heating Company, including a one-half interest in and to said contract, and the said petitioner, Moyer, thereby became an
5 equal partner in and to said contract with the petitioner, Wood, the bill of sale and assignment of which one-half interest is herewith filed and made part hereof, designated as Exhibit "H."

8. That the petitioners completed said work in strict accordance with said contracts, subject to certain changes and modifications required by the Government's officers and gents, and fell short of nothing with regard thereto, the Government's officials and agents accepting the same as having been done to their entire satisfaction.

But the petitioners say, that owing to certain delays in the prosecution of said work caused by the Government's officers and agents, for which petitioners were in no wise responsible, causing petitioners much extra expense, and because of certain defective plans and specification furnished by the Government, through which petitioners were put to extra expense and subjected to great loss, and because of certain extra work required of the petitioners by the said officers and agents, for which they have not been paid, the petitioners have not received of the Government the compensation to which their said work justly entitled them.

9. That the Government through its officers and agents without petitioners' fault, hindered and delayed the petitioners in the prosecution of said work as follows:

That while earnestly and actively engaged in the general prosecution of said work, the Government, acting through Assistant Secretary of the Treasury, O. L. Spalding, on May 8, 1897, suspended all work incident to galvanized iron vent-ducts and running steam risers for interior rooms including and above the second story, until

6 March 9, 1898, whereby great loss of time and much extra expense was caused the petitioners, without their fault, by causing all of the work on the galvanized iron vent ducts in the basement to be suspended from May 11, until July 8, 1897, in order that the contractor for the plastering might have time to com-

plete his work; on account of which the iron work of the petitioners in all branches thereof was suspended, causing them the loss of much valuable time, and entailing upon them large extra expenses.

That under the terms of the original contract the petitioners were required to use a certain patented construction in smokeless furnaces known as the Hawley down draft furnace, and were also required by the terms of said contract to obtain from the company controlling said patented appliance certain detailed plans and specifications for the approval of the Government, from which the said furnaces were to be installed, but that in violation of said contract with petitioners, the Government's officers and agents interfered with the negotiations between the petitioners and the parties controlling said patented appliance, so that petitioners were unable to secure the plans and specifications required by the Government with reference to said patented appliance, from the 30th day of March, to the 19th day of August, 1897, and without which plans and specifications approved by the Government's officers and agents, petitioners were unable to proceed with the work of the installing said down-draft furnaces, and thereby petitioners were caused much loss of time and subjected to great extra expense.

That the said original proposal of the petitioners for this work was based upon the use of a patented system for the removal of the condensation and air from the proposed heating system, known as the "Webster Vacuum System"; that the said original plans and specifications illustrated and described the said "Webster System" and no other; but that on a date subsequent to said original proposal, namely, March 11, 1897, the petitioners did, at the request of the Government, acting through C. E. Kemper, acting Supervising Architect of the U. S. Treasury, submit to the Government a modified proposal for the use of a certain other patented system for the removal of air and condensation, known as the "Paul Vacuum System," which said modified proposal was accepted by the Government and became a part of said original contract; that the said original drawings upon which the contract was based illustrating the said "Webster System" called for and showed a certain construction technically known as the "two-pipe system of risers and radiator connections," and also showed the sizes of all of the said risers and radiator connections entering into said "piping" system; that the said original contract calling for the use of the said Paul Vacuum System provided that said Paul System, should consist of what is technically known as the "one-pipe system of risers and radiator connections," and in addition thereto a certain system of air-line risers and connections which were particularly a part of, and necessary to the proper operation of the said Paul System; but at no point did the said original contract, or drawings, indicate in what manner said one-pipe system and said additional air-pipe system should be constructed, nor was it shown in said contract or by said drawings of what sizes of pipes the various piping systems and connections should be made; but that it was made a part of said original contract that the petitioners should procure of those controlling said

patented Paul Vacuum System certain detailed plans and specifications for the approval of the Government showing in what manner and of what sizes the said piping systems performing the peculiar features of the said Paul System should be constructed; and
8 that without said detailed drawings and specifications the said steam heating apparatus called for by the original contract could not be constructed.

That your petitioners, immediately upon the awarding of the original contract to them, made preparations for the installation of said steam heating apparatus, including the said Paul System, and did begin the work of said construction, and made diligent effort, as required by the terms of the original contract, to obtain of the company controlling the said Paul System the said necessary detailed plans and specifications; but that in violation of the terms of the original contract, the Government, through its officers and agents, interfered with and interrupted the negotiations between the petitioners and the company controlling said patented Paul System from the 30th day of March, until the 2nd day of July, 1897, whereby the petitioners were unable to obtain said plans, drawings and specifications until the last named date; that on said last named date the Government, through its officers and agents, took possession of said last named detailed plans, drawings and specifications, and certain guaranty bonds, as finally furnished by the parties controlling said patented Paul System, and retained possession of the same, to the exclusion of the petitioners, and withheld approval thereof as required by the terms of the original contract, until December 6, 1897, thereby interfering with the reasonable progress of the work, and causing the petitioners much loss of time and large extra expense therein.

That the Government, through its officers and agents, in further violation of the original contract, on account of the said "Paul System," by assuming responsibility and control over the sub-contract between the petitioners and those controlling said "Paul System,"
9 as to the purchase of the right to use and the materials for the use of the same in said work and by requiring a license for the use of the same directly to the Government from those controlling said patented "Paul System," did withhold from the petitioners money earned by the petitioners in the prosecution of said work in the sum of twenty-three thousand, five hundred seventy-three and 2/100 (\$23,573.02) dollars, from the 11th of September, 1899 to September the 18th, 1899, and at divers other times during the progress of said work thus withheld payment to which petitioners were justly entitled, therein and thereby causing petitioners the loss of much valuable time and entailing upon them extra expenses.

That the original contract called for certain cast iron piping of large sizes to be used for underground smoke-flues to be installed by July, 1897; but that by certain and various modifications of the original contract in this respect, made and insisted upon by the Government's officers and agents, petitioners were unable to obtain the necessary materials for this work by said last named date; and that by said certain and various modifications the petitioners were interfered with and interrupted in the reasonable progress of said work,

whereby the petitioners were caused the loss of much valuable time and put to extra expense.

That the original contract provided for vent-shaft covers of certain sizes and constructions, for which petitioners entered into sub-contracts with certain producers thereof immediately after the awarding of the original contract; but that on June 5, 1897, the Government's officers and agents made certain modifications in the sizes and construction of said vent-shaft coverings, whereby petitioners were compelled to cancel said sub-contract and enter into new negotiation for

10 materials based upon revised plans, which included said certain modifications, and to contract anew for the materials so required; and that by reason of said modifications the reasonable progress of the work was materially interfered with and impeded, to petitioners great loss in time, and which entailed much extra expense.

That it was a part of the original contract that petitioners should furnish boilers of certain sizes and dimensions, which sizes and dimensions were clearly shown upon the drawings upon which said contract was based, and set forth in detail and at length in the specifications accompanying the same; but that by reason of latent errors and discrepancies in said drawings and specifications it was physically impossible to accomplish the complete construction thereof; that immediately upon the award of the original contract petitioners had entered into sub-contracts with certain material men for the said boilers; but that owing to the said latent errors and discrepancies which developed during the construction of said boilers, it became necessary for the Government to revise and modify the original plans of said construction, and the Government did submit to the petitioners, July 10, 1897, revised and modified plans for the construction thereof, which revised plans petitioners forwarded immediately to the said sub-contractors for said boilers, with directions to change the construction accordingly, which modifications and changes occasioned loss of much valuable time and resulting extra expense to the petitioners; that there afterwards developed certain vital errors and discrepancies in said revised plans for the construction of said boilers, which made it necessary, September 4, 1897, for the Government to modify and change said revised plans, which last named modifications and changes petitioners immediately forwarded

11 to the sub-contractors for this work, with directions to carry out the same; and that by reason of these last named modifications and changes the reasonable progress of the work of the petitioners under the original contract was hindered and impeded, to their great loss in time and money.

That it was a part of the original contract that the petitioners should install certain pumps, tanks, heaters, engines, etc., in the basement of said building, which said certain pump, etc., should be located in certain positions and arranged and connected with various piping systems in the manner and of the sizes as indicated on said drawings and called for by said specifications, and petitioners in accordance with said contract obtained the necessary material on such arrangement and connection, and began the construction thereof;

but that on July 28th, 1897, the Government's officers and agents found it necessary to change a large portion of said last named work, and on said date submitted to said petitioners revised plans for the same, with request for estimations thereon, which made it necessary for petitioners to cease the construction of said last named work, until such time as the matter should be determined upon, which determination was reached September 11th, 1897; that these modifications occasioned serious interruption in the progress of the work petitioners were doing, and caused them great loss in time and money.

That it was a part of the original contract that smokestacks should be erected in the building in a certain manner indicated on the said original drawings; but that when petitioners proceeded to the erection thereof it was found that the structural iron-work of the building previously erected by the contractor for that work, without petitioners' knowledge, prevented the erection of said smoke-stacks in accordance with petitioners' contract; whereupon the Govern-
12 ment's officers and agents directed petitioners to remove such portions of said structural iron-work as interfered with their work, and that by reason of the delay attending the determination of the above question and the extra work of removing said structural iron-work, petitioners were occasioned the loss of valuable time, and were subjected to extra expense.

That one of the provisions of the original contract required the petitioners to construct a system of underground cast iron and brick trenches of certain sizes and in certain locations; that petitioners in due time proceeded to the installation of said work, but by reason of interferences on the part of certain sewer pipes, foundations, etc., previously installed by contractors for that work, without the knowledge of the petitioners, they were prevented from carrying out said work in accordance with the original plans under the original contract, but were compelled at various times, during the progress of this work, by orders of the Government's officers and agents to make changes and modifications in the plans of said work, because of the said interferences, thereby causing petitioners the loss of valuable time and incurrence of extra expense.

That it was provided in the original contract that the petitioners should furnish a foundation under the entire boiler plant and firing room, said foundation to be composed of concrete made of certain materials including local hydraulic, or Cumberland cement; that, in due time, the petitioners commenced said work, and during the progress thereof, were interrupted by the Government's officers and agents, and compelled to submit proposals for said work, substituting Portland cement for the cement above named; that petitioners accordingly submitted a proposal therefor, September 11th,
13 1897, which was not accepted by the Government until September 30, 1897, and by reason of which interference of the work and the delay in accepting said proposal, petitioners sustained both loss of time and money in doing the work.

That according to the original contract petitioners were to erect galvanized iron ventilating pipes of certain sizes in certain locations in the building; that petitioners, immediately after the awarding of

the original contract, began the erection of said work; but by reason of plumbers' piping and other obstructions previously put in by other contractors, without the knowledge of the petitioners, petitioners were compelled, at various times during the progress of the work, by the Government's officers and agents, to make changes and modifications in the sizes and manner of erection of said pipes, whereby the reasonable progress of petitioners' work was interrupted, and they were thereby caused the loss of much time and money.

That the original contract provided for the erection of certain vent-shaft covers, which were to be attached to the structure of the building as already erected, all of which construction was clearly shown on the plans furnished with the original contract; that petitioners, in due time, began the said work, but by reason of the fact that the actual structure of the building did not agree with said original plans and specifications, the progress of petitioners' work was interfered with and interrupted for several weeks, pending a determination by the Government's officers and agents of the form of construction to be followed by petitioners, instead of the construction shown on said original plans and specifications, whereby petitioners were caused the loss of much time and money.

That petitioners were required by the terms of the original contract to provide and erect retaining walls around the boiler
14 room in certain positions shown on the plans; and in due time petitioners began and carried on this part of the work; but that by reason of the interference of columns, foundations and partition walls, erected by other contractors without petitioners' knowledge, they were compelled, by the orders of the Government's officers and agents, to construct said retaining walls in other locations in said building, which resulted in modifications of the original plans, thereby causing the petitioners the loss of both time and money.

That it was a part of the supplemental contract that petitioners should supply and erect galvanized iron ventilating ducts of certain sizes and dimensions in certain locations in the attic of said building; that petitioners, in due time, began the construction of said work; that during the construction thereof it was discovered to be impossible to carry out the work according to the plans accompanying said supplemental contract, because of interferences and obstructions of the iron superstructure of the building which had been previously erected without the knowledge of petitioners; that it being found to be impossible to change the said iron superstructure, petitioners were directed by the Government's officers and agents to make such changes and modifications in the said vent ducts as were necessary to install the same; and that by reason of the time taken to determine the said changes and modifications, and by the actual work of making said change, the reasonable progress of the work was interrupted and interfered with, to the loss of the petitioners in both time and money.

That it was a part of the original contract that petitioners should erect certain lines of steam piping of certain specified sizes in certain locations in said building; that petitioners did erect such piping in

15 accordance with said contract; that after said work was done the Government submitted to petitioners' requests, from time to time, for proposals to remove said pipes thus constructed, and to erect them in other locations and places in said building; that on March 31, April 11 and 18, May 13 and 25, and June 16, 1898, petitioners submitted proposals for said last named work, which were accepted by the Government May 3, June 9 and 28, 1898; which delay in accepting said proposals and disarrangements of plans resulted in the loss of both time and money to the petitioners.

That it was a part of the supplemental contract that petitioners should erect the heating apparatus throughout said building in accordance with the drawings accompanying said supplemental contract; and petitioners, immediately after the execution of said supplemental contract, began the erection of said apparatus in accordance therewith; that while engaged in the prosecution of said work, petitioners were ordered by the Government's officers and agents, April 8, 1898, to suspend all operations on the work until further notice, and to prepare and submit a proposal for a modified construction thereof, in accordance with certain other plans afterwards submitted by the Government; whereupon petitioners did submit a proposal for the work to comply with the said new plans, April 28, 1898; that, on the 21st of May, 1898, the Government notified the petitioners rejecting said proposal; and ordered resumption of the work in accordance with the original supplemental contract plans, wherein and whereby petitioners sustained great loss of time and money.

That on account of the Spanish War bond issue, and the necessity for a place to install the clerks and employees of the Government engaged in the work of said issue, in the summer of 1898, 16 the Government, through its officers and agents, did on or about June 20, 1898, enter into and take possession of the first floor of said building and install therein a large force of clerks and employees, and did at various and sundry times interrupt and interfere with the petitioners' work by directing the stoppage thereof between the hours of 9 o'clock a. m., and 4 o'clock p. m., and by locking up certain portions of the building, and excluding petitioners therefrom, where and in which petitioners were carrying on certain portions of their work under said contracts, and refusing petitioners access thereto both day and night, so that petitioners were prevented from making measurements for materials to be used in their said work; that said interferences and interruptions continued from about June 20th, 1898, to about the last of September, 1898, wherein and whereby petitioners sustained, without their fault, much loss of time and money in the execution of their work under their said contract.

That by reason of many and various other interferences and interruptions with the reasonable progress of the work at divers and sundry times, by the Government's officers and agents, and by reason of divers other errors and discrepancies in the plans and specifications furnished the petitioners by the Government for the prosecution of the work; by reason of improper and imperfect materials called for by said plans and specifications prepared by the Government's officers and agents, and used by the petitioners at the instance

of the Government in doing the work, and by delays caused in the progress of the work, by disagreements resulting from the use of said improper and imperfect materials and erroneous and unjust interpretation of the said plans and specifications upon the part of the Government's officers and agents, the petitioners, without their fault, were subjected to great loss of time and put to much extra expense.

17 That on account of the losses sustained by the petitioners as detailed in this paragraph, petitioners sustained an aggregate loss in the sum of eighteen thousand two hundred thirty-six and 5/100 (\$18,236.05) dollars, which is justly due and owing from the Government to the petitioners.

10. That on account of said errors, discrepancies, and said changes and modifications in the plans and specifications, and by reason of said delays occasioned by the Government's officers and agents for which petitioners were in no wise responsible, petitioners lost the profits on their said contracts to which they were and are justly entitled, in addition to the above amount claimed, in the sum of fourteen thousand seven hundred thirty-nine and 77/100 (\$14,739.77) dollars, which last named sum is justly due and owing from the United States to the petitioners under said contracts.

11. That on account, and by reason, of said errors and discrepancies, and said changes and modifications in the plans and specifications, as aforesaid, and from said delays, interruptions and hindrances, petitioners were put to expense over and above the legitimate expenses of carrying on and completing said contract, as follows:

To extra services of the petitioner, Charles F. Wood, from January 28, 1898, to completion of the work, September 18, 1899, one year, 7 months and 18 days, at \$5,000 per year	\$9,850.00
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To services of extra superintendent of steam fitting department, Alexander McClintock, from May 1, 1897, to April 1, 1899, 1 year and 11 months, at \$1,500 per year	2,875.00
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18

To services of extra superintendent of the wrought iron and sheet metal department, Robert Healy, from May 1, 1897, to August 1, 1899, 2 years and three months at \$2,000 per year	4,500.00
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To extra rent of warehouse and shop at 4½ Street and Virginia Avenue, southwest, Washington, D. C., from February 1, 1898, to August 1, 1899, a period of 18 months, at \$50.00 per month	900.00
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To loss in use of plant through its retention on this work after the expiration of time fixed for its completion by original contract, and petitioners' inability by reason of said retention, to employ it on other work conducted by the petitioners, for a period of 18 months from February 1, 1898, to August 1, 1899, at \$100 per month	1,800.00
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To extra cost of material caused by the rise in the price and value thereof, covering the period beyond the limit of the original contract and by reason of the frequent modifications of plans and specifications, necessitating the purchase of small quantities thereof instead of job lot and wholesale purchases to which petitioners were entitled 3,200.00

Aggregating for this paragraph the sum of \$23,125.00

which is justly due and owing from the defendant to the petitioners.

12. That owing to said changes and modifications of plans, as aforesaid, interferences and interruptions of the work by the
19 Government's officers and agents, for which petitioners were in no wise responsible, the petitioners were put to extra expense, over and above what said contract work would have cost them if they had been allowed to prosecute said work in accordance with said original contract, as follows:

To 500 extra length sleeves to reach through corners throughout the building, at 25 cents each	\$125.00
To bill of Bashorr & Co., for changes in smoke connections, after same had been installed as directed by the superintendent of construction, and after the complete construction thereof had been accepted by the Government officers' and agents	450.00
And to extra cost of brick and mortar used in reconstructing the boiler settings in said building after above named changes	250.00

Aggregating for this paragraph the sum of \$825.00

which is justly due from the United States to the petitioners.

13. That, over the protest of petitioners, the Government's officers and agents directed them to put in a certain material for the gaskets, or packing for the joints of the steam and water piping throughout the building, and petitioners put same in as directed; that said material proved defective, and at the demand of the Government's officers and agents, petitioners removed and renewed same several times; and in said removals and renewals petitioners expended for said material, and experiments on same, the sum of \$270.00 in excess of the amount expended for such labor included in paragraph 9; that said sum of \$270.00 is justly due from the defendant to the petitioners.

14. That it was a part of the original contract as modified by the Government, August 19th, 1897, that petitioners should supply "in connection with the Roney mechanical stokers," certain ash pits of a greater depth than shown on the original plans, which ash pits were clearly shown on supplemental plans approved and furnished by the Government, in the progress of the work, and to pave said ash

pits, and the firing room floor about them, with vitrified brick; that petitioners, in due time, began said work, and during the progress thereof, it was demanded of the petitioners, by the Government's officers and agents, that they should supply and put in place, independent of said contracts, granite copings in the floor of said boiler room and around said ash pits; and, in spite of petitioners' protest they were required to furnish, and did furnish, the said granite stone coping around said ash pits, which caused petitioners the duty of extra work of the value of \$250.00 which is justly due and owing from the United States to the petitioners.

15. That by reason of a change made in the kind of pipe covering adopted by the Government's officers and agents, and contracted and partly installed by petitioners at the time of such change, petitioners, over their protest, were compelled to remove the portion thereof installed as stated, and to cancel a sub-contract already entered into by the petitioners with R. Willis Lysle, of Philadelphia, Pennsylvania, and sub-contract anew for other and different material for this work, at an extra cost to the petitioners of \$2,157.24, which last named sum is justly due and owing from the United States to the petitioners.

21 16. That the Government's officers agents directed petitioners to put in certain steam traps, which petitioners did put in as directed; that after same had been put in as stated, the Government's officers and agents compelled petitioners to unnecessarily experiment therewith to ascertain whether the same complied with the original plans and specification with regard thereto, which unnecessary experiment caused the petitioners extra expense in the sum of \$363.00, and which said sum is justly due and owing to the petitioners from the United States.

17. That the Government's officers and agents retained the twenty per cent. (20%) reserved by the terms of the original contract to the time when the work under said contract was completed, to wit: September 18, 1899, instead of January 28, 1898, by reason whereof, and owing to said delays, caused the petitioners in the progress of the work by the Government's officers and agents, petitioners were put to extra expense in paying for the use of the necessary money to carry on said work, the sum of \$3,133.04, all of which expense would have been saved to the petitioners if defendant's officers and agents had not interrupted and delayed the work as above stated, and had paid over the said twenty per cent to petitioners in accordance with the terms of the original contract for said work; which said sum of \$3,133.04 is justly due the petitioners from the United States.

18. That on account of the several demands made in the foregoing paragraphs of the petition, the petitioners say that there is justly due and owing from the defendant to the petitioners herein the aggregate sum of sixty-three thousand ninety-nine dollars and ten cents (\$63,099.10), which sum remains wholly unpaid.

22 Wherefore the petitioners demand judgment against the United States in the sum of \$63,099.10, and all proper relief in the premises.

CHARLES F. WOOD,
JOHN L. MOYER,
Petitioners.

No 1513 Filbert Street, Phila., Penn.

JOHN C. CHANEY,
Petitioners' Attorney.

No. 1320 F Street, northwest, Washington, D. C.

DISTRICT OF COLUMBIA,
City of Washington, ss:

Charles F. Wood, being duly sworn, upon his oath, says that he is one of the petitioners in the foregoing petition, by him subscribed; that he has read and understands the same; that the allegations therein made, upon his personal knowledge, are true; and those allegations therein made, on his information and belief, he believes to be true.

CHARLES F. WOOD.

Subscribed and sworn to before me this 21st day of November, A. D. 1899.

[SEAL.] L. J. WITHEE,
Commissioner, U. S. Court of Claims.

23 EXHIBITS TO THE PETITION.

- A.—The advertisement for Proposals.
- B.—The Proposals for original work.
- C.—The Original Contract.
- D.—The Proposal for Supplemental Work.
- E.—The Supplemental Contract.
- F.—Bill of Sale, Palmer to Wood.
- G.—Bill of Sale, Moyer to Wood.
- H.—Bill of Sale, Wood to Moyer.

EXHIBIT A.

The Advertisement for Proposals.

Proposals for Boiler Plant, Low-pressure Steam Heating and Ventilating Apparatus, etc., for the U. S. Post Office Building, Washington, D. C.

Treasury Department,
Office Supervising Architect.

Washington, D. C., January 29th, 1897.

Sealed proposals will be received at this office until 2 o'clock p. m., on the 26th day of February, 1897, and opened immediately there after for all the labor and materials and fixing in place complete a boiler plant, low pressure steam heating and ventilating apparatus, hot and cold water supply system, filtering plant, &c., for the U. S. Post Office Building at Washington, D. C., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Washington, D. C.

Each bid must be accompanied by a certified check for 24 a sum not less than 2% of the amount of the proposal. The right is reserved to reject any and all bids, and to waive any defect or informality in any bid, if it be deemed in the interest of the Government to do so. All proposals received after the time stated will be returned to the bidders.

Proposals must be enclosed in envelopes, sealed and marked Proposal for boiler plant, low pressure steam heating and ventilating apparatus, etc., for the U. S. Post Office building at Washington, D. C., and addressed to Wm. Martin Aiken, Supervising Architect.

N. B.—The regulations of the Department strictly prohibit the consideration of bids received after the time of opening stated in the advertisement. Bidders are, therefore, requested to allow ample time for the transmission of their bids by mail. Registered letters usually reach this office at least 24 hours behind the regular mail.

EXHIBIT B.

Proposals for Original Work.

Proposal for Boiler Plant, Low-pressure Steam Heating and Ventilating Apparatus, etc., for the U. S. Post Office Building, Washington, D. C.

Phila., Pa., Feb. 26, 1897.

Mr. Wm. Martin Aiken,
Supervising Architect,
Treasury Department,
Washington, D. C.

SIR:

We hereby propose to furnish all the labor and materials and fix in place complete the boiler plant; low pressure and
24a exhaust steam heating and ventilating apparatus; hot and cold water supply and fire protection system and the water filtering plant of the U. S. Post Office Building, Washington, D. C., in accordance with drawings Nos. 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 456, 457, 458, 459, 460, 461, 462, 463 and 368 and the specification for the sum of one hundred and fourteen thousand seven hundred and seventy three dollars (\$114,773.00).

Amount included in above proposal for boiler plant complete, twenty nine thousand nine hundred and eighty two dollars (\$29,982.00).

Amount included in above proposal for low pressure and exhaust steam heating and ventilating apparatus, except temperature regulation, sixty four thousand one hundred and eighty seven dollars (\$64,187.00).

Amount included in above proposal for automatic temperature regulating apparatus, ten thousand two hundred and twenty-five dollars (\$10,225.00).

Amount included in above proposal for hot and cold water supply and fire protection system, eight thousand three hundred and seventy-nine dollars (\$8,379.00.)

Amount included in above proposal for water filtering plant, two thousand dollars (\$2,000.00).

Kind of covering—Asbestos Magnesia Sectional.

Time to complete—Two hundred and fifty working days.

Signature:

THE PHILADELPHIA STEAM HEATING
COMPANY,

Address: 1513 Filbert St., Philadelphia, Pa.,
By CHARLES F. WOOD.

Names of individual members of firm—James A. Palmer, Charles F. Wood, John L. Moyer.

Name of corporation—Not incorporated.

W. M. AIKEN,
Supg. Archt., Feb. 26, '97.

NOTE.—We will furnish all the labor and materials and fix in place complete the entire system as above using the Peerless Vacuum System in place of the one specified, for the sum of one hundred and fourteen thousand dollars (\$114,000.00). We will furnish the above boiler plant complete using "Roney" furnaces in place of the furnaces specified for the sum of twenty-eight thousand four hundred and eighty-two dollars (\$28,482.00).

THE PHILADELPHIA STEAM HEATING
COMPANY.

By CHARLES F. WOOD.

C.

EXHIBIT C.

The Original Contract.

General Instructions and Information.

Treasury Department.

Office of the Supervising Architect.

Proposals for Boiler Plant, Low-pressure Steam Heating and Ventilating Apparatus, etc., for the U. S. Post Office Building at Washington, D. C., Invited by Public Advertisement Dated January 29, 1897.

Blank Form.

Each bidder must obtain a blank form of proposal from the Office of the Supervising Architect and prepare and submit his proposal thereon. The original drawings named in the specifications will be retained in the Office of the Supervising Architect, and tracings or photographic copies of the same will be furnished bidders upon application therefor.

25

Return of Drawings.

Parties obtaining copies of drawings must return them within 20 days from the time of receipt.

Competency of Bidder.

Proposals from parties who are not known to be regularly and practically engaged in the class of work called for by the drawings and specifications, or who do not possess ample facilities for doing the same, will not be considered.

Preliminary Requirements.

Before submitting a proposal, each bidder must make a careful examination of the drawings and specifications, and fully inform himself as to the quality of materials and character of workmanship

required, and make a careful examination of the place where the materials are to be delivered and the work performed, and make all necessary measurements.

Quality of Materials.

Unless otherwise specified, the materials furnished must be of the best quality, make, and device for the purpose required, and the bidder must make his estimates accordingly.

Form of Proposal and Signature.

Each bidder must state in his proposal, in writing and in figures (without interlineation, alteration, or erasure), the sum of money for which he will supply the materials and perform the work required by the drawings and specifications, and in the event he is willing to complete the work in a shorter period than the limit fixed by the specification (or if no limit be so fixed), the time for completion.

The proposal must be signed with the full name, address, and place of residence of the bidder; if the bidder be a copartnership, then in the copartnership name by a member of the firm, and the names and addresses in full of each member of the firm must be given; and if a corporation, by an officer in the corporate name, and the corporate seal must be attached to the signature.

Forfeiture for Delay.

Each bidder must understand that, should his proposal be accepted, he is to forfeit to the United States the sum of one hundred dollars (\$100.00), as liquidated damages for each and every day's delay not caused by the Government that may occur beyond the time stipulated in his proposal for the supply of all the materials and the performance and completion of the work; subject, however, to the discretion of the Secretary of the Treasury; and that he is to be entitled to one day, in addition to said stipulated time, for each and every day's delay that may be caused by the Government.

Alterations and Additions.

The Department reserves the right to make any additions to or omissions from the work or materials herein provided for; the valuation of such work and materials, if not agreed upon, to be determined on the basis of the contract unit of value of material and work referred to; or, in the absence of such unit of value, on prevailing market rates; which market rates, in case of dispute, are to be determined by the Supervising Architect, whose decision with reference thereto shall be binding upon both parties; and that no claim for

damages, on account of such changes or for anticipated profits, shall be made or allowed.

Certified Check.

Each bidder must submit with his proposal a certified check, in a sum equal to 2 per cent. of the amount of his proposal, drawn to the order of the Treasurer of the United States, and the proceeds of said check shall become the property of the United States, if,

27 for any reason whatever, the bidder, after the opening of the bids, withdraws from the competition, or if he refuses to execute the contract and bond required in the event of the said contract being awarded to him.

The checks submitted by the unsuccessful bidders will be returned to them after the approval of the contract or bond to be executed by the successful bidder.

Bidders are hereby notified that the certified check required with their bid must be drawn to the order of the Treasurer of the United States; a check drawn to bidder's own order or to order of any other person than the Treasurer of the United States, although indorsed by the party to whose order it is drawn, and although certified or accepted by the bank on which it is so drawn, will not be accepted as a certified check such as is required under this invitation.

Samples.

Where the work contemplated by the advertisement requires the use of stone, each bidder must submit with his proposal a sample of the stone which he offers to furnish; and in all other cases the successful bidder must promptly furnish samples, in duplicate, of such materials as may be designated by the Supervising Architect within the time required, and no material must be put in place until after the approval of such samples. No bids for construction of stonework will be considered unless the sample is furnished as required, and any delay on the part of the contractor in furnishing samples of material will be considered as a waiver of any claim for remission of penalties for delay in completion of contract. Each sample must be properly labeled with the title and location of the building, and the name of the contractor plainly marked thereon; and if of stone, must bear the name and location of the quarry from which obtained; and, if of brick, show the place of manufacture. In case of failure to comply with these requirements, the Department shall have the right to reject the proposal of any bidder and forfeit his certified check.

Protection of Work and Materials.

All work and materials embraced in his contract shall remain at the risk of the contractor until the final completion and acceptance of the same; and the contractor must, at his expense, take out all necessary policies of insurance for his protection.

Form of Contract.

The contract which the bidder agrees to enter into shall be in the form adopted and in use in the office of the Supervising Architect; blank forms of which can be inspected at said office, and will be furnished, upon request being made, to parties proposing to put in bids. Bidders are understood as agreeing to accept the terms and conditions contained in such form of contract, the right being reserved to the Treasury Department to add to, or modify, said form of contract at will.

Parties in Interest.

No officer of the Treasury Department, superintendent, inspector, clerk, employee, or other person in any manner connected with the Office of the Supervising Architect, shall be interested, either directly or indirectly, in the contract or work herein provided for, or be entitled to any benefit derived therefrom; and any violation of this understanding shall work a forfeiture of all moneys which may become due to the successful bidder.

Subcontractors.

No subcontractor or person furnishing material, or employed by the contractor, will be recognized, except as provided for by act of Congress approved August 13, 1894, which act requires that, before the commencement of the work, the contractor shall execute a penal bond, with good and sufficient surety, providing that he shall promptly make payments to all persons supplying him labor and materials in the prosecution of the work provided for in such contract.

29

Payments.

Payments will be made monthly, as near as may be, on account of the work satisfactorily executed and in place in the building. Such payments will be based upon the estimated value of the quantity of such work as ascertained by the Supervising Architect by computation from the contract unit of value, less ten per cent of such estimate, which will be retained until the entire and satisfactory completion, final inspection, and acceptance of all the materials and work embraced in the contract, at which time final payment of the balance due will be made.

In case of payments for heating apparatus, monthly payments of eighty per cent will be so made, and an additional payment of ten per cent upon completion of a test of the heating apparatus at the contractor's expense. The final payment of ten per cent will be made after the heating apparatus shall have been operated for one heating season to the satisfaction of the Treasury Department.

Eight-hour Law.

The attention of bidders is called to the act of Congress approved August 1, 1892, limiting the hours of daily service of laborers and mechanics employed upon public works of the United States to eight hours in any one calendar day.

Rights Reserved.

The Treasury Department reserves the right to accept any part or parts of the proposal made at the prices included in same; also to waive any informalities in, and to reject any and all proposals, and to require the contractor to discontinue the services of any workman employed on the work who is unskilled or otherwise objectionable.

30

Time of Transmission.

Proposals shall be transmitted in time to reach the Supervising Architect's Office before the hour set for opening bids. No proposal received after that time will be considered.

Indorsement.

Each proposal must be enclosed in an envelope, sealed, and indorsed as follows:

"Proposal for the Boiler Plant, Low Pressure Steam Heating and Ventilating Apparatus, etc., for the U. S. Post Office Building at Washington, D. C."

From [Here insert name and address of bidder] and addressed to—

THE SUPERVISING ARCHITECT,

TREASURY DEPARTMENT,

WASHINGTON, D. C.

Specification.

Generally.

Proposals must be made on the blank form hereto attached for all the labor and materials and fixing in place complete the boiler plant, low pressure and exhaust steam heating and ventilating apparatus including automatic temperature regulation, etc., hot and cold water supply system and fire protection and the water filtering plant of the U. S. Post Office building at Washington, D. C., in accordance with drawings Nos. 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 456, 457, 458, 459, 460, 461, 462, 463 and 368 and this specification.

- 31 The total proposal for the entire work must be sub-divided for the different classes of work in the following order:

First. For boiler plant complete, using horizontal tubular boilers with improved furnaces as specified.

Second. For the low pressure and exhaust steam heating and ventilating apparatus complete, except automatic temperature regulation.

Third. For the automatic temperature regulating apparatus complete.

Fourth. For the hot and cold water supply and fire system.

Fifth. For the water filtering plant.

The entire work covered by this specification is represented by the drawings and each bidder must carefully compare the drawings and specification with contingent work now in the building, as the proposal must include everything necessary and requisite to place the different apparatuses complete in every detail in order for continuous use. All modifications in existing work and any omissions must be valued in the proposal. The drawings and specifications are to be interpreted together and all work included in either though not in both shall be considered a part of the contract. Each bidder must also understand that if his proposal is accepted his contract and bond will be a guarantee for keeping the different apparatuses and each and every part thereof in perfect satisfactory condition, usual wear and tear excepted, as to character of material, workmanship and mechanical operations, and to remedy all defects at his expense, which may be developed by reason of the use of any inferior or defective material or workmanship which may not have been discovered until after the different apparatuses have been put in practical operation and used for a period of one year from the date of final payment and the conditional acceptance of the work at such date.

32 All questions as to whether each and every part of the work is in perfect and satisfactory condition and as to the usual wear and tear and as to defects necessary to be remedied during said period are to be determined by the Supervising Architect or his authorized agent.

Kind and Quality of Material.

The material supplied must in each case be of the best class and grade found in the market and will be subject to the approval and selection of the Supervising Architect upon the award of the contract. The selection of the material by the supervising architect shall be final and binding upon the successful bidder.

Time to Complete.

Each bidder is required to state the time in which he proposes to complete the entire work, which time however must not exceed 260 working days from the date of approval by the Secretary of the Treasury of the formal contract and bond.

It is however the intension of this contract, that all work contemplated by same and required to be done in the rooms of the first and mezzanine stories and the toilet and south rooms of the basement all of which is to be used by the Post Office, must be done by July 1, 1897; and that by October 1, 1897, the entire work must be sufficiently advanced so that the aforesaid rooms can be permanently heated and the rest of the building be supplied with temporary heat.

General Information.

The boiler plant as specified in detail is to consist of 12 horizontal tubular boilers arranged in four batteries of three boilers each, so connected that each battery as a unit or any one boiler of
333 the batteries can be thrown out of service or used as desired.

The boilers are to be provided with approved smokeless furnaces arranged and suitable for burning bituminous coal. The entire boiler plant of the building is to be run at a pressure of 100 lbs. to the square inch, but the heating apparatus described in the specification will be a low pressure steam heating fixture utilizing the exhaust steam of pumps and engines and as much live steam as at times may be necessary. The high pressure steam to be reduced to low pressure by means of pressure reducing valves. All approved vacuum system is to be used for extracting air and condensation from all radiation and piping, and to reduce back pressure on engines and pumps to a minimum. Under this system the return pipes of all radiators and the drips from the bottom of all flow-risers are to be provided with thermostatic valves. The indirect radiation throughout will be constructed of wrought iron with cast iron bases, while direct and semi-direct radiation will be ornamental cast iron. The radiation for the second, third, fourth, fifth, sixth and seventh floors, with the exception of that used in the rooms exposed to the interior court will be flue radiation; to the bases of which fresh air will be introduced from the outside. The bases of such radiators are to be provided with dampers for controlling the air supply.

The entire building will be supplied with fresh warm air. Basement, first story, part of the first story mezzanine and center court space will be ventilated by the combine- Plenum and aspiration system only. All air introduced into basement and first story rooms will be pre heated and thence by blowers forced through a system of ducts to the various indirect radiator chambers or without being again heated delivered direct into engine and boiler rooms. The air discharged into centre court space is delivered direct to its large indirect radiating chamber without previously being preheated.

All rooms from second to seventh stories, inclusive, will have air introduced from the outside through cast iron sub-sills, brick cold air boxes below the windows, and ducts in floors to the bases of the semi-indirect radiators standing in front of windows. The cast iron sub-sills and brick cold air boxes will be furnished under another contract, but this contractor must furnish and place all connecting ducts below floor to the radiator bases. The rooms facing interior court will have air supply to same direct from the court through gratings. Said air supply is not connected with the radiators in the rooms. The gratings for the air supply to these rooms are not included in this contract.

The temperature of the entire building will also be controlled by an approved temperature regulating apparatus included in this contract. While this apparatus is to be placed by the manufacturer of same, this contractor however is required to place all pneumatic thermostatic valves on the flow pipes to all radiation with the exception of that used for preheating the air, which valves will be supplied to this contractor by the contractor for automatic temperature regulation. The water supply service for the building will be from a compression tank system located in the basement which system will consist of compression tank, two pumps and hot water heater for hot water supply. The system to be provided with automatic regulating attachment for maintaining any desired water pressure.

The fire protection for the building is to consist of fire pump and risers, with hose connections, reels and hose on the different floors where shown. The fire pump is also to be cross-connected with the compression tank of the water supply system.

The filter plant for the building to consist of two filters of the most approved type properly connected to the city water mains as specified.

This contractor must furnish the entire power plant consisting of boilers, breechings, improved furnaces, feed pumps, feed water heaters, etc., and including a system of tracks etc. for the transportation of coal and ashes; the entire heating and ventilating apparatus consisting in its main parts of indirect, semi-indirect, and direct radiation, chambers for indirect radiation, pedestal registers and lining, blowers and engines, fresh air filters and air ducts, all steam, exhaust and drip piping, and trenches for same, vacuum and condensation pumps, pump governor and pressure reducing valves, cold air gratings, hot air and vent registers, vent ducts, vent shaft covers, special riser supports, ladders and platforms for vent shafts, new walls and sash, etc., for basement, also all brick work, cutting of walls, plastering, etc., in any way connected with work under this contract.

The water supply and fire protection of the building and filter plant are also to be furnished complete with the exception of cold and hot water service pipes from the risers in vent shafts to fixtures. The high pressure steam and exhaust mains, etc., of engines for proposed electric light and the pumps of the elevator plant are also to be furnished by this contractor as required by the drawings, leaving plugged or blank flanged outlets for future connections.

Work not Included.

Elevator pumps, tanks and hydraulic piping electric light engines, as indicated on the drawings will not be included, but the main steam, exhaust and drip pipes for said machinery are included as specified.

Hot and cold water service pipes from the vertical risers in vent shaft to plumbing fixtures are not included in this contract. Said service pipes will be run by the Plumbing Contractor.

Boilers.

The boiler plant of the building is to consist of twelve horizontal tubular boilers arranged in four batteries of three each. Each boiler to be sixty inches in diameter and eighteen feet long and is
36 to contain fifty-eight, three and one-half inches diameter tubes, eighteen feet long, spaced one inch apart not staggered with a vertical space of two inches in centre as shown by details. The heads of the boilers to be $5\frac{3}{8}$ " and the shells $7/16$ " thick, best quality homogeneous steel, made by the open hearth process and absolutely free from flaws, blisters, sand or scale marks, scabs, pits, etc.

The ultimate tensile strength of the steel to be not less than 57,000 pounds, nor more than 64,000 pounds per square inch of section and showing a reduction of area at fracture of 50% and an elongation of not less than 22% in eight inches when tested in specimens as per diagram on drawing No. 456. Three coupons are to be taken from the plates of each boiler making 36 coupons in all, twelve of which are to be shaped as per diagram while the remaining number are to be 2" x 8". One half of the latter are to be capable of being bent without sign of fracture when cold, one hundred and eighty degrees with a diameter of not over one and one-half times the thickness of the plate, the remaining coupons to be capable of being bent without sign of fracture 180 degrees, with a diameter of not over one and one-half times the thickness of plate, after having been heated to a dark cherry red and quenched in water of about 82 degrees.

No steel is to be used in the construction of the boilers, until the specimens shall have been tested and the result of the test accepted by the Supervising Architect.

The tests of the specimens must be made by a U. S. Boiler Inspector, either at the mill where the steel is manufactured, or else the specimens must be sent to the U. S. Boiler Inspector in whose district the boilers are being made. In each case the U. S. Boiler Inspector's certificate of test form 2173 with result of bending tests attached, must be forwarded to the Supervising Architect for his acceptance. Upon receipt by the Supervising Architect of advices from the contractor, at which point he desired tensile and bending tests
37 made, a request will be referred to the Supervising Inspector General of steam vessels, for the detail of a local U. S. Boiler Inspector.

The plates for both shells and heads of boilers are to be plainly stamped with quality and maker's name, said stamps to be so placed that they may be plainly seen after the boilers are completed. Each boiler to have dome 21 inches high by 36 inches in diameter, shell to be $\frac{3}{8}$ " thick, and head $\frac{5}{8}$ " thick, of the same quality of steel as boilers, and connected to same with triple row of rivets. The shell of boilers below domes is not to be cut out to the diameter of domes, but only a 15" diameter hole cut into same in center below each dome. Said openings to be properly reenforced with $\frac{1}{2}$ " x 3" steel rings securely riveted on. In the concentric rings between 15" diameter rings and shell of dome, a number of two inch diameter holes are to be drilled in shell of boilers for drainage of any water which may be in pockets above shell of boilers.

All longitudinal seams to be butt joints with inside and outside welt strips, double triple riveted, with rivets spaced $3\frac{1}{2}$ " from center with outer rows of triple riveting spaced 7" from centers. The girth seams to be single riveted, space 2" from centers. All rivets to be first quality $\frac{3}{4}$ " in diameter and of sufficient length to secure proper heads; the plates for boilers to be carefully planed and all rivet holes carefully drilled or punched, in the latter case of which the holes are to be punched $\frac{1}{16}$ " smaller than required. Plates must be rolled to a perfect circle, and welt strips accurately fitted to same and in case rivet holes are punched, same are then to be carefully reamed to the required diameter before riveting. Under no consideration is the use of a drift pin to be permitted to bring holes fair. All longitudinal seams to be located in the upper quarter of boilers. The heads to be flanged with an interior radius of not less than 2" without splitting the edges, the latter to be planed as specified for plates. All seams of boilers to be calked in a first-class manner with blunt tools, square driven.

38 Each boiler is to be provided with 11" x 15" manhole in front head below the tubes, and on top of boiler as shown. The latter manholes to have suitable steel frames or interior manhole saddles riveted to inside of shells, while manholes in heads are to be flanged in heads and faced. Suitable plate, gasket, two wrought iron bolts and arched yokes are to be furnished and fitted for each manhole.

All openings in heads and shells of boilers for steam safety valve, feed and blow off connections are to be reenforced with suitable flanges of standard dimensions, properly tapped as required. The tubes for the boilers to be of the best quality charcoal iron, standard wire gauge in thickness, lap welded of American manufacture, and expanded in the heads, by the use of a Dudgeon roller expander.

The heads of boilers will be braced to shell of same in an approved manner with 7 braces to each head, above the tubes, and two braces to each rear head below the tubes. The braces to be arranged as indicated on the details but no braces to be less than 3' 6" long, all the braces to be $1\frac{1}{4}$ " in diameter, best quality refined iron, securely riveted to shells at opposite ends, with upset ends fastened to 4" x 4" Tee irons by means of 1 $\frac{3}{16}$ " diameter pins the holes for which

must be accurately drilled in upset ends of brace rods and Tee irons; the latter to be riveted to the heads in an approved manner.

Each side of boilers will have above center line, for support in brickwork three heavy cast iron lugs. The lugs to consist of heavy cast iron shoes securely riveted to shell of boiler before tubes are set, and separate brackets. Each shoe to have proper dove tail groove not less than 4" wide at upper edge of shoe. Heavy cast iron brackets 12" wide and projecting not less than 12" from boiler to be slipped into grooves of shoes to form complete lugs. Bearing surfaces of brackets to be planed smooth and a cast iron bearing plate 1" thick planed on one side to be furnished for each

lug and set in brick work immediately below the lugs. Five
39 1" diameter steel rollers are to be furnished for and interposed between each lug and its bearing plate.

Immediately above the tubes of each boiler a two inch diameter perforated brass feed pipe 10' 0" long is to be placed and securely staid to shell of boiler and properly connected to front head.

The boilers are to be provided with furnaces of a down draft water tube grate, smokeless type, with upper and lower grates. All necessary attachments and pipe connections for such furnaces must be furnished by the contractor to make boiler plant complete.

Each bidder must state definitely in his proposal, what kind of furnace he proposes to install, and accompany his bid with detailed drawings and statement as to its guaranteed efficiency when burning bituminous coal, which latter is proposed to be used.

The boilers while being constructed will be subject to inspection by a Government inspector at any time, and it is hence an obligation on the part of this contractor, to immediately notify the Supervising Architect, and state where the boilers are to be constructed. After the boilers are completed and the down draft furnaces are attached they are to be subjected to a hydrostatic test by a U. S. Boiler Inspector, in accordance with the rules and regulations of the U. S. Board of Supervising Inspectors of Steam Vessels.

The contractor is to furnish the U. S. Boiler Inspector Certificate for hydrostatic test and to pay all charges for said test, as well as all expenses connected with making the tensile tests etc., of the material. This certificate of hydrostatic test must be forwarded to the Supervising Architect immediately after the test is made, and is to be accompanied by an affidavit of the boiler maker stating that the boilers are constructed of the steel plates from which the
accepted samples for testing were taken.

40 The boilers are to be taken into the building through 11th

Street entrance to the first floor, and then lowered into the basement through the adjoining elevator well openings. This contractor must carefully protect entrance steps, floor arches, etc., while moving the boilers into the building.

Boiler Setting.

The twelve boilers are to be substantially set in brick work in accordance with the details shown on drawings No. 331, 332, 456

and 462 so that the heat will pass under the boilers, returning through the tubes, and passing back over the top of the boilers to the smoke breechings, and thence to the smoke stacks.

The walls for the setting to be of the thickness and arranged with air space as shown by the details, all inner walls and backing of outer walls to be constructed of best quality hard burned brick laid in Portland cement mortar, to 6" above basement floor level, and above that point to lay in lime mortar consisting of fresh wood-burned lime and clean sharp sand. The setting of furnaces to be as required by the down draft furnaces used, and all exposed parts of same including bridge walls, side walls behind the latter and exposed surface of rear walls, to be lined with best quality fire-brick, carefully laid in kaolin. The inner surface of each manhole door in rear of setting to be closed with 4" fire-brick laid dry. The fire-brick lining of furnaces outside of special shaped brick required, to be laid with headers every fifth course. The entire exterior exposed wall surfaces of setting to be faced with first quality face or front brick, laid with close joints. All the brick work with the exception of the fire-brick linings to be carefully laid in Flemish bond, and due consideration must be given in bricking in of the boilers for the expansion and contraction of same. The covering for the return flues over the top of the boilers will be constructed of two courses of hard burned brick, laid upon light and heavy cast iron covering bars, bricks to be laid in lime mortar as specified before, and grouted with same on top. Side and rear walls to have 5"x9" dressed blue stone coping as shown. The entire area of space occupied by boilers, fire room etc., to be excavated below basement floor line to the depth shown and a concrete foundation covering entire said area, laid in accordance with the drawings.

The entire floor of fire room between boilers, ash pits, and incline to fire room to be paved with first class vitrified paving bricks laid on edge, in cement, paying due attention to bedding in of tracks and cross ties for coal and ash railway, etc. Retaining walls at north and south end of fire room to be not less than 9 inches thick built of hard burned brick and laid in cement and backed with 8" of concrete as shown by the detail, said walls to be faced as specified for the boiler setting, and capped by 6" x 12" granite coping laid in long lengths and bedded and jointed in cement mortar, the top of same being level with basement floor line and projecting 3/4" beyond face of wall. Five sets of granite steps, two of which are located in door openings, are to be placed where shown.

Boiler Fronts.

The twelve boilers to be provided with cast iron ornamental fronts of design indicated by the detail, suitable for down draft furnaces, and with all necessary movable panels for access to furnace attachments provided where required. Each and every part of each front must be sound and true castings out of wind and perfectly smooth and free from any flaws whatever. The fronts must be

fitted and put together previous to delivery at the building and be free from rust or thick paint. The castings are to be made of the best quality tough gray cast iron. All holes for bolts must be drilled to the exact size of the bolt, and countersunk bolts must neither project beyond nor be imbedded below the front surface of the castings. Each front to be securely held to brick work of setting, by six" diameter wrought iron tie rods, extending entirely through setting and side walls to be tied together with same number of cross ties of same diameter, cross ties to have heavy cast iron braces, on the outside of brick work reaching from top to bottom of setting, and longitudinal tie rods to have heavy cast iron diamond washers at the rear of the brick work.

Trimnings for Boiler Setting.

Each boiler is to be provided with heavy arch plates, front and rear bearing plates and bars, and stationary lower grate bars suitable for the furnaces used. Each boiler is also to have one cast iron rear flame plate, not less than 76" long, 24" wide and 2" thick, with two heavy stiffening ribs; one heavy large cast iron manhole frame and door, and two small cast iron frames and doors. Doors must be accurately fitted and have approved attachments for keeping same properly shut. All necessary heavy cast iron covering bars, 7' 0" long, and all light cast iron covering bars not over 2' 6" long for return flues over boilers, are to be furnished for setting, and each boiler to have wrought iron shield around manhole on top constructed of $\frac{1}{8}$ " thick boiler iron, and extending from top of boiler to top of cover of return flues.

Smoke Breeching and Smoke Stacks, etc.

The twelve boilers will be connected to two smoke stacks, six to each as fully shown on the drawings, the branch breechings, of each battery of three boilers are connected to overhead main branch which latter branches are in turn connected with the main underground breechings, running to and connecting with the smoke stacks in S. E., and S. W. main vent shafts. The individual branches of breechings and the four main branches down to basement floor line where same connect with the under ground breechings are to be constructed of $\frac{1}{4}$ " thick boiler iron, riveted to 2" angle iron in manner and according to dimensions shown on the drawings. Rivets to be $\frac{1}{2}$ " in diameter and spaced 2" from centre.

Each individual branch of breechings, to have an easy moving boiler iron damper, $\frac{1}{8}$ " thick, provided with suitable lever attachment and quadrant as indicated on the drawings for hand regulation; the quadrants riveted to the breechings to be slotted and end of levers provided with screw handles, so that dampers can be held in any desired position. The four main branches to have dampers of same material with lever attached for connection to the automatic damper regulators, hereinafter specified.

The four vertical breechings to be bricked in as shown on the drawings.

The underground smoke breechings to consist of cast iron hub and spigot pipe, gas pipe sizes, and of the diameters given on the drawings, with special fittings for connection with rectangular wrought iron breechings. All necessary fittings, as Tees and elbows and heavy foot bends at bottoms of smoke stacks, to be as shown. The foot bends to have heavy base and brace plates, to form secure foundations for smoke stacks. Each of the underground breechings to have cleanout hole where indicated, said cleanouts to consist of cast iron sleeves set in bells of Tees on the breechings and provided with inside and outside rabbeted flanges, for two manhole plates, all in accordance with the details shown on the drawings. The joints of the cast iron smoke breechings to be made with cement and entire breechings to be surrounded with 8" thick concrete with 1' 0" at bottom and special concrete foundations below foot bends of smoke stacks all as indicated.

Wrought iron doors for access to underground breechings and cleaning out purposes are to be constructed in the vertical branches of smoke breechings in accordance with the details. The doors to be made of 1/8" thick sheet iron, riveted to 1/4" x 2" bar iron, and hinged to wrought iron frames, which latter are secured to the mouth openings, arranged in the breechings for the doors as indicated. Doors to be fitted absolutely tight and hasp and padlock to be provided for each door.

The smoke stacks in S. E. and S. W. vent shafts to be each 185' 0" high, more or less, from floor of vent shaft and 54" in diameter, constructed in sections of about 6' 0" long. The lower 60 feet will be 3/8", the next 65 feet, 5/16", and the remaining part 1/4" thick boiler iron. All sections to be put together by outside butt strips, 4" wide and corresponding in thickness to the sections to which they are riveted, the sections will be riveted with 5/8" diameter rivets spaced three inches apart on the curvilinear seams and 6" apart staggered on the vertical seams. Butt seams on the curvilinear seams are riveted to top edge of each section. The smoke stack in southwest vent shaft, is perfectly perpendicular, while the smoke stack in southeast vent shaft must be provided with offset as fully shown on drawing No. 457. At each floor and where otherwise shown, the smoke stacks are to be braced by 2 1/2" x 3 1/2" angle irons securely bolted around stacks and to the iron construction of vent shafts as indicated. Said braces to be alternately fastened to opposite sides of vent shafts. The smoke stack in southeast vent shaft at offset, to be supported by 5/8" thick wrought iron plates, riveted to stack, in the manner shown and resting on 10" and 12" channel irons, placed across vent shaft and secured on top of beams surrounding same by angles riveted to channels, and properly bolted to beams in place. An expansion joint must be made in the smoke stack below the offset in the manner indicated on the drawings. The bottom sections of the smoke stacks to have large clean out doors near bottoms, the opening for which must be properly re-enforced by 1 1/2" x 2 1/2" wrought iron rings or

substantial cast iron door frames properly riveted on. The bottom end of smoke stacks must be re-enforced by $\frac{1}{2}$ " x 6" bar iron riveted to stacks, with $\frac{7}{8}$ " diameter rivets, top end of stacks to be hooded in accordance with details shown on drawing No. 457.

Boiler Trimmings and Firing Tools.

Each boiler is to be provided with:

- One 4" diameter lever safety valve of approved construction and
 one 4" diameter approved cam lever pop safety valve with
 45 solid nickel seat secured in the valve casing in a first class manner.

One steam pressure gauge for high pressure. Gauges to have non-corrosive movements, have 12" diameter engraved dials graduated to 200 pounds, and nickel-plated brass cases. The connections to steam gauges to have syphon drain cocks in proper positions.

One polished brass ornamental gauge column with 18" water gauge, and three polished gauge cocks, of approved and first-class pattern with lifting handles; column to have $1\frac{1}{4}$ " diameter polished brass connections with boiler, and to be provided with proper brass drip valve at bottom of column, from which valve a brass drip pipe is to be run down and through cast iron front into ash pit. All exposed pipe connections to boilers to be extra heavy, polished brass pipe and fittings.

One $1\frac{1}{2}$ " diameter polished brass feed valve.

One $1\frac{1}{2}$ " diameter polished brass check valve.

One 2" asbestos blow-off cock and $1\frac{1}{2}$ " diameter polished brass approved Y blow-off valve, with all the necessary connections to the blow-off tanks, and sewer as shown upon the drawings. Two damper regulators of approved make to be furnished and be connected, one to each six boilers, so arranged as to move the damper in the main vertical branches of breechings. The damper regulators to be of first-class construction and of such positive action that the least variation of pressure will move dampers in breechings. The contractor is also required to furnish all necessary pipe shafting, bearings, hangers, pulleys and chains to properly connect levers of dampers. He must also make all steam and water pipe connections to regulators in a most approved manner, the regulators to be located on the piers in fire room, in suitable case with glass doors, which cases are to be constructed of oak, cabinet finish.

- 46 The Following Firing Tools to be Furnished for Boiler

Two $3\frac{1}{2}$ " steel wire flue brushes and handles.

Six wrought iron slice bars.

Six wrought iron hoes.

Eight scoop shovels, No. 5.

Two steel wheelbarrows, No. 2.

Two wrought iron scrapers, with linked rods, for cleaning the breechings, and two galvanized hod buckets 16" in diameter by 2' 0" high, with steel rims bottom and top, and steel handles.

Two sets of wrenches for the use of manholes, blow-off cocks, etc., to be furnished and placed on general wrench board, hereinafter specified.

The above tools must be furnished complete after the entire apparatus is finished, and to be delivered to the superintendent or custodian in charge of the building. Tools at time of delivery must be new.

Railway for Coal and Ashes.

For conveying coal and ashes to and from fire room, from coal and to ash vaults, this contractor is required to furnish and securely fix in place an industrial railway in accordance with design shown upon drawings Nos. 332 and 462; the railway to be of the standard gauge of $24\frac{1}{2}$ " and to consist of standard $24\frac{1}{2}$ " rails secured to approved steel cross-ties, spaced $24\frac{1}{2}$ " apart on centres. Two turntables to be arranged where shown and curved section of track to start at bottom of incline as indicated. The turn tables are to be securely fixed in place and supported on rings of hardened steel balls running in turned grooves, which are to be protected with flanges to keep out dirt; surface of turntables to be roughened and diameter of same to be not less than 52". The tracks to be bedded in the cement and vitrified brick flooring as necessary and directed, and top of rails to be on level with floor line. Two coal and ash cars to be furnished for use on above tracks; same to be constructed of sheet steel stiffened with angle iron. Sides of cars to be arranged so that same can be dropped, and dumping attachment to be such as to permit dumping on either side of track. Width of cars, with sides closed, to be not less than 42", and capacity of same to be about one-half ton. Cars to be furnished complete in running order, and to be properly painted.

Water Supply and Fire Protection System.

The water supply for the building is to be taken from the 11th and 12th Street mains, as fully indicated on drawing No. 332, by 6" diameter service pipes. This contractor is required to pay for all permits, &c., for making all connections of service and street washer connections with street mains. The 6" service pipes from the two street mains to be laid according to the drawing, and to be connected to 10" diameter stand pipe in pump room where shown. The service mains from street mains to standpipe to be heavy cast iron hub and spigot water pipes, coated according to Dr. Smith's process, and jointed with hemp and lead, caulked in a first-class and approved manner. Near curb line each supply to building is to be provided with first-class cut-off valves of the pattern used by the District Water Department; same to be provided with suitable casing and service box for the protection of the valves. The service boxes in the pavement to be extra heavy and provided with lock attachments. The 10" standpipe to be heavy cast iron flange pipe properly connected to service pipes and to vacuum chamber of fire pump. From top of

standpipe a 6" diameter main is branched into two 4" connections, the latter of which are run to the two water filters. Discharge pipes from filters to be 4" diameter connected to the 6" diameter filtered water main, to which latter the 4" suction pipes of house pumps are connected as shown. A cross connection is also to be made from the main water supply pipe to the suction pipes of house pumps so that water filters can be cut out if desired. The three inch discharge pipes from the house pumps are run to the pressure tank of the

48 water supply service. Suction pipes of house pumps to be provided with suitable approved air injectors to constantly replenish the air cushion of pressure tank. The suction and discharge pipes of the fire pump must also be cross connected with the filtered water main and pressure tank, as indicated on the drawing, so that fire pump can be used for building supply purposes. From bottom pressure tank a 4" supply main is run as shown and divided into two 3" branches, each of which supply two 2½" risers in the main vent shafts for supply of plumbing fixtures; the supply mains and risers are to be run in accordance with drawings Nos. 461, 462 and 463. In each story, including the basement, each vertical riser to have a 1¼" diameter outlet for fixture supply.

The 1¼" branches up to and including fourth story to be provided with first-class pressure regulating valves to maintain an even pressure on fixtures. Pressure regulators to be valved on either side and also provided with by-pass, same size as branches, and valved so that pressure regulators can be cut out if necessary. All the outlets in risers are to be left ready for the plumber, from which points the latter will run service pipes to fixtures. A 6" diameter main is also to be taken from the pressure tank, divided into two 4" branches, which latter are connected with hot water and feed water heaters respectively. A cross connection must also be run from the 6" main to the suction pipes of boiler feed pump, etc., so that cold water can be introduced into the boilers direct without passing through the heaters. The discharge pipes from the heaters to be 4" in diameter, run as indicated, and at the points shown provided with 3" diameter branches, each of the latter of which is divided into two 2½" branches running to the 2½" hot water risers in the four main vent shafts as shown. The hot water risers to be arranged with outlets and provided with pressure regulating valves as heretofore specified for the cold water risers. Return circulating hot water risers are to be taken from the top of hot water risers in the four vent shafts and taken to basement, where same are connected to the hot water and feed water heaters. Sizes of the return circulating pipe and

49 run of same to correspond to the hot water flow pipes. All connections to the feed water and hot water heaters to be made, as shown, in such a manner so that either one can be used for either purpose.

House Pumps.

The two 9" x 5¼" x 10" house pumps hereinafter specified in the list of pumps are included in the water supply system and located where shown on drawings Nos. 331, 332 and 462. Same are to be

provided with all necessary air and drip pipes, drip trays, one pint side feed lubricators, etc. Steam supply and exhaust pipes to be run and to be of the sizes shown, and besides the ordinary throttle valves the steam supply pipes must be provided with approved pump governors controlling steam supply to these pumps automatically; starting and stopping the pumps whenever pressure in tank falls below or rises above the required set pressure.

Pressure Tank.

The pressure tank for the water supply of the building is to be 4' diameter and 10' high located in the basement where shown on drawing No. 462. The tank to be constructed of the best quality homogeneous steel, shell to be $\frac{3}{8}$ " thick and heads to be $\frac{5}{8}$ " thick properly riveted together with $\frac{3}{4}$ " diameter rivets, spaced 2" from centres. Vertical seams to be double riveted staggered and rivets for same to be spaced $3\frac{1}{4}$ " from centres. The heads of tanks to be properly dished to avoid using interior brass rods.

Tank to be properly caulked inside and outside and all openings for pipe connections must be reinforced with heavy flanges in a suitable and satisfactory manner. The tank is also to have man hole of approved construction placed near the bottom of tank, and besides supply and discharge pipes must be furnished with safety valve, pressure gauge, pipes to pump regulators, draw off pipe, water gauge, etc.

The tank is to be supported on strong suitable cast iron shoes, which latter are to rest on proper brick foundations with 4" thick dressed granite coping on top, set flush with floor. Tank is to be tested to hydrostatic pressure of 200 lbs. to the sq. inch. All connections between pump and tank and between the tank and filters and water mains are to be properly made and valved as indicated on drawings Nos. 331, 332 and 462.

Hot-water Heater.

The hot water heater for hot water supply purposes to be an exact duplicate of the feed water heater hereinafter specified. All connections to same must be made and valved as shown so that either heater can be used for either purpose as desired or be disconnected when necessary.

Besides the exhaust connections the hot and feed water heaters are each to have a 1" diameter high pressure steam connection taken from steam main to 10" pressure reducing valve. Each 1" pipe to have cut off valve and also be provided with first class temperature regulators, automatically cutting off steam supply when temperature of hot water rises above the required degree.

Fire Pump.

The 16" x 9" x 12" fire underwriter's pump included in the list of pumps hereinafter specified is to be included in the fire protection system. Steam, exhaust, drip, priming and air pipe connections for

the pump are to be of the sizes shown and required. The 10" suction pipe to be directly connected to stand pipe, and the 7" discharge pipe from fire pump is to be divided into 6" branches running east and west, each of which is again divided into two 4" supplies running north and south to the four 4" stand pipes to be located in the northwest, southeast and southwest main vent shafts and in the north partition of east main staircase, all as shown on the drawings. The four 4" standpipes run up to above ninth floor; and about 5' 6"

51 above each floor line, in each story, where shown, a 2" diameter outlet is to be arranged for fire hose connections. Where so required branches must be run from the standpipes to the proper position of hose reels. Each outlet on standpipe or branch is to be provided with approved nickel-plated hose valve and approved swinging hose reel with full area waterway connections, which hose reels must be securely fastened in position. Each of the eighth hose reels in basement and first story to be provided with 125' and each of the 32 hose reels for the upper stories to have 100 of 1½" diameter, first quality, twilled cotton, rubber lined hose; each hose line being supplied with the necessary brass nickel-plated couplings and approved brass nickel plated nozzle. In each corner of the building the 2½" diameter risers of cold water supply service are to be cross connected to the 4" diameter fire standpipes in the ninth story, so that fire stand pipes are constantly ready for service. The cross connection in each case to have swing check valve opening towards fire standpipes and closing as soon as the fire pump starts and produces a higher pressure in standpipes.

From the cold water suction of boiler feed pump a 1½" diameter pipe is to be run overhead to west pier in fire room of boiler, where pipe is to be provided with hose valve and swinging hose reel with 30' 0" of 1½" first-class quality rubber hose, with the necessary couplings and nozzle. Reel to be securely bolted in place.

Street Washers.

Where indicated on drawing No. 332, six 2" diameter street washers are to be located, one on each corner, and one each in the center of Eleventh and Twelfth Streets fronts. The former are to be directly connected to the city mains, while the latter can be connected to 6" service mains entering the building. The street washers to be located in pavement and to be of approved pattern, anti-freezing, and provided with stop cock and locking attachment and heavy stationary tops complete. Connections to city mains to be made with 2" diameter lead pipes not less than 9 lbs. per foot.

52

Water Filters.

Where shown on drawing No. 462, two approved water filters are to be located and connected to the water supply system of the building. The maximum size of the filters to be used is shown on the drawing. It is, however, required to reduce the diameter of the filters as much as possible, and filters having the least number of

valves to handle in operating same without interfering with their effectiveness are preferred. Each of the filters is to be guaranteed to have a capacity of not less than 100 gallons per minute. The construction of filters to be of approved form, and such which absolutely prevents the filtering beds from becoming lumpy.

The filters are to be connected so that either one or both can be used as desired, and besides supply and discharge mains must have all necessary by-passes, connections for washing filter beds, and waste connections to remove sediment while washing filters. The waste pipe from said filters to be connected to drain, which latter discharges into drip tank as indicated on drawing No. 462. Each bidder is required to furnish with his bid blue prints showing the construction of filters and complete detail specification covering the operation of filters he proposes to use.

Blow-off Tanks.

Two 4' 0" diameter by 8' 0" long blow-off tanks are to be furnished and located behind boilers where shown on drawings Nos. 331, 332 and 462. Said tanks are to be constructed of the best charcoal boiler iron, the shell being 5/16" thick and the heads and inside partition 3/8" thick. All outlets for blow-off, overflow, vapor and draw-off connections to be located as shown and required and reinforced with suitable flanges or bosses of standard dimensions properly tapped and riveted on. Manholes similar to those specified for boilers to be placed on top of tanks and partitions forming trap to be located 1' 0" from heads, to which blow-off pipe connections are made.

Said partitions to extend to within 1' 0" from bottom of tank.

Seams to be riveted with 5/8" diameter rivets, spaced 13 1/4" from centres, and also to be split and caulked inside and chipped and caulked outside, caulking to be done with blunt tool. Overflow from each tank to be connected with sewer where indicated, and blow-off connection to be properly by-passed, so that tank can be cut out if required. Draw off connections to be made where shown. The vapor pipes to be 4" in diameter, and that from east blow-off tank is to be connected to 5" air pipe from condensation receiver, and the one from west blow-off tank to the 6" vent from drip tank as shown. The regular blow-off connections from rear end of boilers to be connected to the blow-off tanks, while blow-off of furnace attachments are to be run to drip tank as shown. The blow-off tanks to be supported on cast iron shoes, which in turn are to have brick foundations with dressed stone coping on top.

Drip Tank.

A 5' diameter x 10' deep drip tank is to be located in engine and pump room shown on the drawing. Drip tank is to be constructed of best quality charcoal iron, shell to be 3/8" and heads 7/16" thick. Two foot diameter man-hole with steam tight joint is to be placed in top head of drip tank. Top head of drip tank to be located approxi-

mately 3' 6" below basement floor so that all drip pipe connections and drains from trenches can be made to top head of tank. Tank to be placed on a concrete bed not less than 15" thick and surrounded by concrete wall 12" thick. To place tank, the contractor, is required to sink circular wood casing into ground and do all excavating, the circular casing to be not less than 7' 0" inside diameter and of proper height so that same can be used as form to construct concrete wall around tank. On top of drip tank a square pit is to be formed of brick and concrete walls in accordance with drawing No. 462. This pit is to be covered with cast iron plates laid in border strips and supported by tee irons similar to plates, etc., specified for large trenches. Drip tank to have 6" diameter vent pipe run 54 in trench to point where same rises to basement ceiling and thence runs to and up above cover of southwest vent shaft as shown, where pipe is to be provided with copper exhaust head. All pipe connections to drip tank except blow off of water grates and vent pipe to be provided with swing check valves. Drip tank to be emptied by ejector hereinafter specified or by steam pump, the suction pipes of which are to be cross-connected into one suction pipe, which latter is to extend within 8" of bottom of tank. A suitable approved indicator arrangement must be provided showing height of water in tank, said arrangement to be placed on wall of air chamber immediately south of tank. The steam supply of this pump to be automatically controlled by float in tank starting pump whenever water rises above maximum level and stopping same when minimum level is reached.

Pumps.

The following pumps are to be furnished and included in this contract.

One 16" x 9" x 12" underwriters fire pump;

Two 9" x 5 $\frac{1}{4}$ " x 10" house supply pumps;

Two 8" x 10" x 12" special vacuum pumps;

Two 7 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " x 6" condensation pumps;

One 7 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " x 6" boiler feed pump;

One 6" x 4" x 6" pump for emptying drip tank;

One steam ejector of not less than 1,500 gals. cap. per hr.

All pumps to have brass plungers and piston rods and be supplied with the necessary draw off, priming and drip pipes, etc., and also have nickel-plated side feed lubricators of first class and improved pattern and proper capacity. The pumps will also be provided with drip trays on top of foundations constructed of 16 ounce planished copper, 2" deep and properly wired at top edge. The underwriters' fire pump and the house pumps are embodied in the water supply and fire protection system of the building and are hence to be included in the proposal for said subdivision, while all other pumps are to be included in the heating and ventilating apparatus proposal. All the pumps to be supported on suitable brick foundations provided with 4" thick dressed granite coping on top. Exposed part of brick foundations above basement floor line to be

faced with front brick as specified for boiler settings. All pipe connections to pumps are to be made of the sizes as shown on the drawings, and where required by same steam separators are to be provided in steam supply connections. The steam supply pipes are to have cut off valves in the overhead piping in addition to the ordinary throttle valves. Exhaust pipes of pumps to be controlled by gate valves. The suction pipes of vacuum pumps to be connected to the 6" return main of heating apparatus and valved as shown so that either vacuum pump can be used for exhausting air and condensation from the heating system. Each suction before connecting to pump to have suitable dirt catcher inserted in pipe. The 5" discharge pipes of vacuum pumps are connected with 5" main discharge from same, which runs to the condensation receiver as shown.

The 4" suction pipes of the two condensation pumps are to be connected with the condensation receiver and pump governor so that either pump can be used and one be kept in reserve. The 3" discharge pipes to be connected to main boiler feed pipe as indicated. The suction ends of condensation pumps are also connected to feed water heater and cold water supply so that either pump can be used for boiler feeding purposes as may be desired. Steam supply to the condensation pumps to have separator and also to be so cross connected and arranged that pump governor automatically controls steam supply of whatever pump is used for pumping condensation back to the boilers.

The suction of boiler feed pump is connected to feed water heater and also to cold water supply as shown upon the drawings. It is also to be cross connected to the suction from the condensation receiver, so that same can be used for pumping condensation from the latter. Discharge pipe of said pump to be connected with main feed pipe of boilers where indicated on the drawings. Steam supply of this pump, however, is not controlled by the pump governor. All connections of the above specified pumps to be properly valved so that either pump can be used for either service, or cut out as desired. Drip tank pump to be located where shown suction of same to be cross connected with suction of steam ejector and a 3" pipe extended to near bottom of drip tank as heretofore specified 2" discharge from pump run overhead in boiler room and thence down and connected with overflow from blow-off tank of east battery of boilers before said overflow enters sewer. The steam ejector to be all brass and properly supported in pit over drip tank. Steam connections to same to be made as shown, suction to be cross-connected to pump section as heretofore specified and discharge to be run to discharge from drip tank pump, all connections to be so valved that either pump or ejector can be used.

Condensation Receiver.

Where shown upon the drawings, a 30" diameter by 5' 0" high condensation tank is to be located and placed on wrought iron stand. Said tank to be constructed of the best quality charcoal iron; shall be $\frac{1}{4}$ " and heads $\frac{3}{8}$ " thick, riveted together with $\frac{5}{8}$ " diameter rivets

placed $1\frac{3}{4}$ " from centres. Bottom head to have flange turned out so that head can be riveted from without without using a manhole on tank. All seams to be properly chipped and caulked, and all outlets of tank to be properly reinforced with suitable flanges or cast iron bosses, tapped for pipe connections and securely riveted on. A 20" diameter water gauge of approved form is to be connected to tank as directed. Discharge from vacuum pumps to enter top of tank and 5" air-vent pipe is also to run from top of same to and up south-east vent shaft to top; 4" vapor pipe from blow-off tank of east battery of boilers is to be connected to said pipe where shown; tank to be supported on angle iron stand, resting on suitable brick foundations with stone coping.

57

Pump Governor.

A No. 3 positive-acting pump governor to be placed in boiler room and properly connected to condensation tank and suction pipes of condensation pumps, etc. The governor to be supported at proper level and heavy plate column, which in turn is to have heavy cast iron base plates and suitable brick foundation with dressed stone coping flush with floor. A 2" diameter equalizing pipe is to be taken from the condensation receiver and connected to pump governor.

Feed-water Heater.

The 600 horse power feed water heater of special and first-class make, not less than 48" in diameter and not more than 72" high is to be furnished and located where shown on the drawings. The heater is to be supported on substantial legs or wrought iron stand which in turn are to be supported by proper brick foundation, with four inch thick granite coping on top. Stand to be of sufficient height to allow all pipe connections to be properly made, which latter are run as indicated on the drawings and as specified. The hot water heater specified under the hot water supply system is to be an exact duplicate of the feed water heater, and both of these heaters are to be cross connected, as shown, so that either heater can be used for either purpose.

Exhaust Tank.

The exhaust tank to be 3' 6" diameter and 6' 6" high, constructed of the best quality of homogeneous steel; shell to be $\frac{5}{16}$ " thick and heads $\frac{7}{16}$ " thick, properly riveted together with $\frac{5}{8}$ " diameter rivets spaced $1\frac{3}{4}$ " from centres and $2\frac{7}{8}$ " from centres for double rivets vertical seams. The tank is to be placed where indicated on the drawings, supported on suitable angle and tee iron stand. The brick foundation for tank must be furnished and provided with 4" thick

dressed granite coping set flush with floor. The tank to have 58 outlets reinforced with heavy cast iron flanges for exhaust steam, live-steam and steam supply to heating apparatus all placed as shown.

Outlets also to be provided for drip and draw-off connections. A combined pressure and vacuum gauge is to be connected to exhaust tank in first-class manner, the gauge to have 10" diameter engraved dial and polished nickel-plated brass case, and be of the same grade as specified for the high pressure gauges. Gauge to be placed so that it can be easily seen, and connection to same to have syphon drain and stop-cock in proper position.

Steam Separators.

The following steam separators of first class and approved pattern must be furnished and connected to the steam supply pipes of the various pumps and engines.

Two 4" Separators for steam supply to fire and vacuum pumps.

One 4" Separator for steam supply to N. E. Fan Engine and pre-heating coils.

One 3" Separator for steam supply to S. W. Fan Engine and pre-heating coils.

Three 3" Separators for steam supplies of Elevator Pumps.

Two 3" Separators for steam supplies to House Pumps.

One 3" Separator for steam Condensation Pumps.

All separators to be provided with drip pipes which latter must be valved close to separators and thence run to steam traps as hereinafter specified.

Steam Traps.

The following standard steam traps of approved and such construction which will permit disconnecting of traps without disturbing pipe connections to same, are to be furnished and placed where required.

Three No. 2 Traps for separator drips of elevator pumps.

Two No. 2 Traps for separator drips of fire and vacuum pumps.

Two No. 1 Traps for separator drips of steam supply to house pumps.

One No. 3 Trap for separator drip of steam supply to condensation pumps, and drip from high pressure steam main.

One No. 3 Trap on drip from high pressure steam main at connection to 10" pressure reducing valve.

One No. 2 Trap on drip from 4" high pressure steam main to fan engine in northeast corner.

Two No. 3 Traps on drips from feed water and hot water heaters.

Two No. 2 Traps on drips of separators to fan engines etc.

Two No. 2 Traps on main returns from pre-heating coils in cold air chambers (for use when high pressure steam is supplied to coils).

One No. 4 Trap on main return from indirect radiation for interior court space (for use when high pressure steam is supplied to radiation).

One No. 2 Trap on drip from oil eliminator. Discharge from trap to be run to drip tank.

All the traps above are to be properly connected in their various

positions as shown on drawings and required. Discharge pipes from same are connected to main return of heating apparatus or to drip pipe mains as the case may be. Traps to be by-passed and those connected with radiation as above specified to be so cross-connected with return pipes that either the traps of the thermostatic valves on returns may be used. Traps below hot water and feed water heaters are to be similarly cross connected.

Oil Separators.

An approved oil separator is to be placed on the 12" exhaust main in pit above drip tank as shown on drawing No. 462; drip from same to be taken to trap located in the same pit, and discharge from same to be connected to drip tank.

60

Pressure-reducing Valves.

The following pressure reducing valves to be furnished and located where shown upon the drawings:

One 10" pressure reducing valve on connection to exhaust tank.

One 5" pressure reducing valve on connection to steam supply to indirect radiation for interior court.

Two 3" pressure reducing valves on steam supplies to pre-heating coils in cold air chambers.

All reducing valves to be of first class pattern without springs and be placed between valves and be by-passed as shown on the drawings.

Back-pressure Valve.

A 12" diameter absolutely noiseless back pressure valve of first class construction and approved pattern will be placed on main exhaust pipe exhausting to atmosphere where shown on the drawings.

Radiation.

The amount of radiating surface is marked on the drawings for each radiator and the actual amount furnished must be substantially the same, in no case less. The indirect radiators to be either wrought or cast iron of the best quality and grades manufactured and of such styles as specified.

Wrought iron radiators will be constructed of wrought iron tubes 1" in diameter screwed into a cast iron base with cast iron screw return bends connecting pipes at opposite ends.

All connections of wrought or cast iron radiators of pipes or loops, etc., with bases, or between the different sections, as the case may be

must be first class joints, iron into iron, made without the use

61 of any packing or washers. All direct radiators to be cast iron ornamental and those with air supply to be of the flue

type. All radiators can only be used upon the basis of the actual heating surface contained in each section or loop which rating will be given by the supervising architect.

Indirect Radiation and Brick Chambers.

The indirect radiators for warming air supplied to the basement, first story and mezzanine story rooms are to be constructed of 1" diameter wrought iron tubes four and six pipes deep as indicated and screwed into cast iron base staggered; with cast iron screw return bends connecting pipes at opposite ends; or else to consist of perfectly smooth cast iron surface containing none but prime surface. Radiators to be placed in brick chambers constructed of 9" thick walls below and 4½" thick walls above radiators, except radiators for main post office working room which are enclosed in chambers constructed of 9" walls. Walls to have concrete foundations and floors of indirect chambers to consist of concrete as shown. The approach for lookouts and cold air chambers built in conjunction with the indirect chambers in centre of the basement are also to be included in this contract. Radiators to be supported on wrought iron bars and tee irons as indicated, with return end of radiators sufficiently elevated to give proper drip to condensation. The connection to radiators to be made from top and bottom of same. The walls of chambers must properly enclose the indirect radiators so that no air can pass into the heating flues or pedestals without coming in contact with the radiating surfaces. Where floor girders do not extend down between radiating surfaces the space between radiators must be closed with galvanized iron box constructed of No. 24 B. W. G. galvanized iron properly fixed in position. Each chamber to have one large cast iron manhole frame and cast iron door below and two small cast iron manhole frames and cast iron doors above radiators. To secure doors perfectly tight when shut, doors and frames will have lugs cast on with holes to receive properly made pins

5/16" in diameter, the latter to be fastened to doors with light chains. Any other arrangement of holding doors properly shut will be accepted. For connecting indirect radiator chambers with the galvanized iron lining of pedestals on upper floors the contractor is required to cut holes in first floor arches and provide flanged cast iron boxes or sleeves as per details. Said boxes and galvanized iron riser sleeves constructed of No. 24 B. W. G. galvanized iron to be placed on suitable centres and arches repaired by filling space around boxes and riser sleeves with concrete properly tamped in place. The present fire proofing around girders and beams where crossing indirect radiator chambers must be removed and replaced by new fire proofing consisting of hollow tile, etc., as shown.

The construction of indirect radiator chambers, connection of same with pedestals above, etc., is fully shown by the details upon drawing No. 459.

Pre-heating Coils and Indirect Radiation for Centre Court Space.

The indirect radiation used for pre-heating cold air and for heating air for centre court space to be of the same style wrought iron

radiators as specified for indirect radiation and be of the sizes shown on the drawings. The radiators for pre-heating air are to be located between and supported by brick walls and piers as shown by details on drawing No. 460, and are provided with damper frames and doors in front of radiation as fully shown. These damper frames are to be constructed of tee and angle iron and extend from bottom of radiation to bottom of girders etc., above, as indicated. The upper part of frame to be closed with sliding damper 3' 0" high constructed as per detail of angle and sheet iron and provided with handles, chains, pulleys and counterbalance weights, which latter are to be located in suitable position. The lower section of frame to have folding iron doors constructed of bar and sheet iron as shown so that by closing same and lowering sliding dampers the entire radiation surface can

63 be covered and by-passes arranged over the top of same; or by opening doors and lowering sliding dampers the air can be partly drawn in, above and partly through radiating surface. Doors to be provided with hinges and suitable attachments for holding same open or closed as desired. Entire frame work must be properly riveted and bolted together. The radiation for heating air for court space is to be located in chamber and to be supported on brick wall and 8" I beams, all as fully shown on drawings. All brick and stone work in connection with this chamber and hot air duct to upcast flues in court space, is included in this contract. The top of the hot air chamber to be constructed of two courses of brick laid in lime mortar upon tee iron construction, hereinafter specified. Top of brick work to be grouted and covered with 1" asbestos mortar with hard finishing coat on top.

The wall above front of radiators to be supported by two 4" I beams into which 3½" tee irons for support of cover are to be properly framed. These tee irons are to be spaced about 2' 6" apart. Light cast iron covering bars, of top, the spacing of which is governed by the length of brick, are to be placed between the tee irons. For access to space above chamber, cast iron manhole frame and door is to be located where shown.

Direct Radiators.

All direct radiators will be ornamental, of cast iron, first class quality and of the style selected by the Supervising Architect. Radiators in front of windows to which air is supplied will be of the flue type, provided with removable box bases with controlling air supply damper, all of approved first class construction. Radiators without air supply to have no box bases. All radiators to be of the height given on the drawings and those around columns of piers to be circular and provided with corners as indicated.

High-pressure Steam Pipes.

64 The high pressure steam mains in boiler room including equalizing pipes on top of boilers and all means and branches to pumps, fan engines and supply to pressure reducing valves.

etc., are to be of the sizes and run as shown on drawings Nos. 331, 461, 462 and 463. The steam supply pipes to elevator pumps are to stop at steam separators for said pumps. Outlets for separators to pump to be plugged for future connections.

The high pressure steam main in engine room to have outlets for electric light engines as indicated, same to be blank flanged for future connections.

Exhaust Vapor, Air, and Vent Pipes.

The exhaust pipes from blower engines, pumps, etc., to be of the sizes marked on the drawings to run as indicated to feed water and hot water heaters and connected to exhaust tank. The exhaust pipe from northeast fan engines and also exhaust from electric light engines are to run below floor as shown leaving blank flange outlet for future connection of the exhaust main of the latter engines. The exhaust piping to feed water and hot water heater are to be so cross connected and provided with valves that exhaust steam can pass through either one or both of them to exhaust tank; or exhaust steam can be by-passed and exhausted directly into the atmosphere as desired the main exhaust pipe to atmosphere is run to and up northwest vent shaft to top of cover of same. Provision for expansion in said pipe must be made as shown and specified for the 7" main risers of the heating system. On top of exhaust a copper exhaust trap with cast iron bottom must be placed, same to be constructed in a first class manner of 22 oz. copper properly riveted and soldered together. Drip from exhaust head to be carried down shaft and connected with the drip from the bottom of vertical exhaust from which point the drip is to be connected with main drip pipe as indicated. The vapor pipes of blow-off tanks, vent from drip tank and air vent from condensation receiver to be of the sizes run and connected as shown upon the drawings and heretofore specified. Drips from vent and vapor pipes are to be also properly connected to drip mains, 65 where pipes pass through cover of vent shafts the covers must be properly flashed and made water tight.

Heating System, Steam Flow, Return and Drip Pipes of Heating Apparatus.

All the steam pipes of heating apparatus will be arranged with proper grades and drips so that the condensation will always flow in front of and in the same direction as the steam. All return pipes to be graded towards suction pipes of vacuum pumps. The 12" main is to start from top of exhaust tank and branch into two 10" mains running north and south, each of which mains is to be divided into two 7" branches running to the four main vent shafts and up to above ninth story ceiling. The supplies for indirect radiation and pre-heating coils in basement and riser supplies for radiators in interior rooms facing the centre court are to be taken from the heating mains in basement as shown, while all other direct radiation of the upper floors of the building will be connected to risers supplied

from above by main branches taken from the top of the 7" vertical risers in main vent shaft.

The distributing mains and branches from these risers to be run as shown on eighth and ninth floor plans. The return risers to run to basement and after receiving drips from flow risers to be collected into main returns run in trenches and after joining with returns from indirect radiation are connected with the 6" main return at vacuum pumps, the suction pipes of which are connected with the main return. All risers to be of the sizes and provided with offsets expansion joints, supports, drip pockets at bottom of risers, etc., as fully shown upon riser sheets Nos. 343 and 344. The former drawing principally shows the numbers and sizes of risers while the detail of Nos. 44 and 45 risers illustrates the construction and locates offsets of all risers on exterior walls. All risers to run exposed and must absolutely be put up true and plumb, and pipes, etc., are to be free from defects.

66 Offsets must be made by neatly bending the pipe, as the use of 45° elbows and flange unions will not be permitted. Where required by the drawings, contractor must provide pockets in flooring for expansion joints of risers by cutting the terra cotta floor arches in a workmanlike manner and finish the pockets as illustrated by the drawings. The expansion joints are to run parallel with fronts and at right angles to same as required by the floor beams. All the pipes are to run as indicated on the drawings, and where shown by circle the flow pipe branches are to be taken from the top of the main runs.

Radiator connections on upper floors to be run below floors with proper grades and provided with drips where necessary and shown. It is not permitted to butt return pipes coming from opposite directions unless in cases where it cannot be avoided, when partition tee must be used at junctions. While sizes of flow pipe connections to direct and semi-indirect radiations are correct as marked, the size of return pipes from all radiation to risers are uniformly reduced to 1½" diameter.

Vacuum System.

For extracting condensation and air from the entire heating system including exhaust tanks, feed water and hot water heaters, etc. This contractor is to install an approved vacuum system in complete working order. The system practically to consist of connecting the entire return pipe system of the heating apparatus, discharge pipes from traps discharging clean condensation, etc., to the vacuum pumps, which latter deliver air and water into the condensation receiver from which condensation will be pumped back to boilers automatically. To prevent steam from entering any of the returns all returns from each radiator and each drip from risers, etc., must be provided with approved thermostatic valves, which permit passing of condensation but which will close against steam. The minimum sizes of all returns and drips are given on the drawings and if not

67 suitable for the vacuum system the contractor is permitted to increase said sizes but under no consideration to reduce same. The contractor is also to furnish detail specification of the system he proposes to use, together with blue prints illustrating the various appliances thereof. The manufacturer of the vacuum system must guarantee the working of same for a period of five years, which guarantee is to consist of acceptable guarantee bonds made by a reliable Guarantee Co., in amount of fifty per cent of the cost of the system. Samples of thermostatic valves, etc., must be furnished with the proposal.

Blow-off, Overflow, Waste, Drip, and Drain Pipes.

The blow off from boilers to be run in rear of same and connected to blow off tanks; while blow off pipes from furnace attachments must run in front of boilers and thence to drip tank as show on drawing 332. Overflow, draw-off and by-pass of blow off tanks to be arranged and connected to sewer, etc., as shown and specified. A cast iron cess pool with bell trap and 3" diameter outlet to be arranged in fireproof floor where shown and pipe run to drip tank; floor of fire pit to be graded towards cess pool.

All waste and drip pipes from exhaust tank, feed and hot water heaters, steam separators, high pressure steam and exhaust mains controlled by steam traps and thermostatic traps are to be connected to the main return system so that condensation can be saved.

Same are, however, to be so cross-connected to separate drip main that condensation can be discharged into drip tank during the summer months. All cylinder drips of engines and pumps and all waste of drip trays are to be run as specified and shown and be properly connected to drip tank, all connections to be properly valved.

Cleaning of Apparatus.

68 All boilers, tanks, heaters, pumps, radiators and piping must be thoroughly cleaned of all iron cuttings, etc., from reaming, tapping, etc., and should any pipe or traps, etc., be stopped up by such refuse after the apparatus has been accepted the contractor will be required to pay for disconnecting, cleaning and reconnecting whatever work has been disconnected.

Pipes, etc.

All pipes covered by this contract, except feed pipes, and cast iron and lead water service pipes, such as high pressure steam pipes, steam and return pipes of heating apparatus, exhaust and vapor pipes, drip, overflow, waste and drain pipes and water pipes will be of the best quality wrought iron pipes, of the sizes noted on the plans and herein specified, straight, true and round of the standard wire gauge in thickness with full cut threads. Pipes 1 1/4" in diameter and smaller to be butt welded and proved to 300 pounds pressure. Pipes 1 1/2" in

diameter and larger to be lap-welded and proved to 500 lbs. hydrostatic pressure to the sq. inch.

The sizes given are the inside diameters in all cases. The pipes used in the water service and filter plant of the building and supply to house, fire, feed and condensation pumps to be galvanized. Blow-off pipes to be extra heavy pipe with extra heavy fittings. Feed pipes of boilers and all other pipes exposed at front of boilers to be polished heavy brass pipe, iron pipe sizes. All pipes 6" diameter and over to be connected with heavy cast iron flanges and flange fittings of standard dimensions and provided with copper wire gaskets. The water service pipes from street mains to standpipe in building to be cast iron hub and spigot pipe as heretofore specified.

Fittings.

All fittings for 6" diameter pipes and over to be flanged while those for pipes under 6" diameter to be screw fittings, except elbows on 4" and 5" diameter steam and water mains, which are also to be flanged. All elbows, tees and Y's, to be of standard dimensions using long and medium radius for bends as fully shown and indicated on drawings 461, 462, and 463. No short radius bends are permitted to be used. The fittings are to be manufactured of best quality, tough, gray cast iron, heavily flanged or beaded, to be fine smooth casting of uniform standard thickness throughout, entirely free from sand holes, and screw fittings cut with full tapering threads. Flange fittings to be accurately drilled for the standard number and sizes of bolts.

Fittings on galvanized iron pipe will be galvanized and fittings on expansion joints of risers to be special. Eccentric tees are to be used on high and low pressure steam pipes to prevent water standing in the pipes. Wherever the sizes of same are reduced outlet in straight runs to be on line with bottom of pipes, while outlets for branches are to be on line with top of pipes. Brass pipes to have heavy polished brass fittings.

Hangers, Etc.

All overhead pipes to be supported every eight to ten feet by adjustable hangers of proper dimensions secured with suitable beam clamps. All pipes running along walls of basement are to be properly supported every ten feet by expansion hangers suspended from brackets of first-class construction; brackets to be secured with expansion bolts of suitable size. Pipes in brick trenches are to be supported every ten feet on expansion rollers and chairs and those run in cast iron trenches to be supported on 1" diameter pipe rollers resting on bottom of trench. Risers are to be supported by special cast iron supports bolted to beams, etc., as fully shown on riser sheet.

All risers in main vent shafts are to be supported at every floor by eight inch channel iron riveted to iron construction of floors by

means of suitable angles, said channels to be slotted in centre, said slots to extend entire length of channel, except one foot from each end and one foot in centre.

70 Riser supports to be used as indicated on drawing No. 457.

Pipe Trenches.

Pipes below basement floor are to run in brick and cast iron trenches as required by the drawings. The brick trenches to be constructed of 9" walls built on 8" concrete foundations and plastered inside and out with 1" thick Portland cement, said trenches to be covered with 5/8" cast iron trench plates, diagonal channeled on top. Trench plates to be laid in cast iron borders constructed as shown and plates for wide trenches in boiler and engine rooms, etc., to be arranged in not more than 2' 0" sections, supported across trenches by cast iron tee bars as shown; top of plates to be on line with basement floor. All starting points of trenches to be constructed of cast iron with cast iron trough bottoms and adjustable sides to permit crossing of sewer and drain pipes below basement floor near outside walls of the building. Said cast iron trenches to be 9", 12" and 16" wide of variable depth to suit grade and slope of returns, etc., and the slope of the basement floor, which latter is 1' 0" from north to south end of building. Cast iron trenches to be covered with trench plates 1 1/2" thick. The construction of brick and cast iron trenches is fully shown by details on drawing No. 345. Cast iron trenches are indicated by tint on drawing No. 332, said trenches to rest on concrete foundations at the proper grades and be bedded in the concrete flooring which latter will be furnished by the building contractor.

Condensation.

The condensation from the entire heating system, steam separators, etc., is to be returned to the boilers automatically by means of the vacuum pumps, condensation pumps and pump governor. The pipes and drips wherever necessary and shown to be so graded and arranged that the entire apparatus is free from cracking and snapping noises.

71 Automatic Temperature Regulation.

The rooms Nos. 2, 4, 5, 6, 7, and 8, in basement and every occupied apartment on the upper floors, with the exception of the corridors and stair halls and toilet rooms are to be provided with automatic temperature regulating apparatus of simple and durable construction and absolutely positive operation.

The temperature of every apartment in which apparatus is used during winter weather while steam is turned on is to be kept constant by the apparatus at 70° Fahrenheit at a level 5' 0" above the floor and not to vary 2°.

The apparatus is to operate upon the flow valves of all the indirect and direct radiators used for the various apartments, the said valves being controlled by Thermostats located in the different rooms. All large apartments such as Post Office working rooms, in basement and first floor, to have two or more Thermostats properly placed as may be required.

Return valves of all radiation consist of automatic thermostatic valves which are included in the vacuum system, etc., are not controlled by the heat regulating apparatus.

The radiators of pre-heating coils and those for warming fresh air for center court space are not to be controlled. The valves used to be first class of heavy pattern with regulating features attached.

The entire automatic temperature regulating apparatus to be first class in every respect and must be guaranteed for a period of five years. Each bidder is required to state in his proposal what style and whose apparatus he proposes to use and also furnish complete specification of same including schedule of number of Thermostats, valves, etc., to be furnished. He will also be required to furnish references of parties for whom regulating work where indirect and direct radiator valves are controlled in an apparatus of this magnitude, has been executed.

72

Globe and Angle Valves.

Globe and angle valves are to be used on all high pressure steam pipes throughout; steam flow and return pipes of heating apparatus including flow and return connection of all risers and connections and pre-heating coils and indirect radiators for center court space. Wherever a valve is placed on a steam main of heating apparatus to control a section of piping, a corresponding valve must be placed on the return main so that the same radiators are cut out by each set of valves. Valves for high pressure steam mains must be extra heavy and suitable for high pressures, and all globe and angle valves used on 4" pipe and over must be yoke valves and those on 6" pipes and over be flanged. Valves 2½" diameter and larger to be iron body, brass mounted, smaller valves to be constructed of best quality steam metal and those on brass pipe connections to be finished all over.

Direct radiator valves in connection with the heat regulating system and the thermostatic valves included in the vacuum system to be nickel-plated all over.

All valves to be used must be of the best quality obtainable and of the make selected by the Supervising Architect.

Gate Valves.

Gate valves are to be used on all water pipe, exhaust pipe, feed and drip pipes and blow off tank connections under this contract those on water pipe connections of building supply, filtering plant etc., fire protection system, etc., to be extra heavy suitable for heavy pressures, while those on exhaust pipe connections to be suitable for

such purposes. While globe valves are indicated on the drawings for the main exhaust pipes, gate valves are to be used on said pipes as herein specified. Yokes and flanges are to be provided for all valves of the sizes as specified under globe valves. Valves 2½" and larger to be iron body, brass mounted, smaller valves to be constructed of best quality steam metal and those on brass pipe to be finished. All valves to be used must be of the best quality obtainable and of the make selected by the Supervising Architect.

Wrench Board.

A hard wood wrench board of sufficient size finished and provided with suitable moulding must be furnished and secured on wall next to feed and hot water heaters. For said board a complete set of wrenches for all pumps under this contract, blow off cocks, etc., must be furnished and properly arranged and secured on board.

Extra Gauges, &c.

In the office of the Chief Engineer, room No. 2 in basement, an ornamental finished walnut gauge board is to be placed on wall where directed. The following gauges, etc., are to be properly arranged on same.

One clock of approved make.

Four high pressure steam gauges of same style as specified for boilers and connected to each battery of three boilers, with proper designation plate.

One combined pressure and vacuum gauge connected to heating apparatus.

One water pressure gauge connected with pressure tank of water supply system.

Three approved speed indicators connected with each one of the blower engines.

All connections to gauges and attachments to speed indicators exposed in Chief Engineer's office to be brass nickel-plated.

Drain from Skylight Over Post Office Working Room.

The two 4" diameter wrought iron drains from skylight now run to below basement ceiling are to be continued by this contractor run in trenches were shown, connected with 6" drain and run to drip tank to discharge in same. The 4" vertical connections in basement to be so arranged as to form trap in same having not less than 4 foot water seal. Water supply pipes ½" diameter properly valved are to be connected with trap and taken from the nearest cold water main.

Protecting Wood Work, etc.

All wood work coming in contact with steam pipes will be properly protected with a lining of galvanized iron. Where pipes pass

through floors they are to be fitted with cast iron floor plates, with beaded edges, screwed in place, and galvanized iron thimbles passing through wood work or entire floor respectively. Where pipes pass through plastered walls or ceilings, etc., except as specified below, they are to be fitted with cast iron ornamental plates, similar to floor plates, properly fastened.

Where pipes pass through cornices the galvanized iron tubes are to extend $\frac{1}{4}$ " below cornice and the ornamental ceiling plates above specified are to be omitted.

Working Test.

The contractor is to furnish sufficient fuel, oil and waste, etc., to make a working test of the entire apparatus during a period of six days. All fans and engines as well as pumps are to be thoroughly tested and high pressure steam piping must be absolutely tight under a pressure of 100 pounds per square inch; while all heating apparatus pipes are to be tested to a pressure of thirty pounds. Water pipes to be tested 125 pounds. All tests are to be made under the directions of the Heating and Ventilating Engineer of the Supervising Architect's Office, and contractor must give all necessary assistance to make the tests which are to be made at the completion of the entire work. Firing tools, etc., when delivered must be in perfect condition.

Pedestals.

The hot air pedestals in first and mezzanine story except circular pedestal are to be constructed of wood and will be furnished and set up in place by the contractor for interior finish of the building, but this contractor is required to cut the holes in the floor arches and furnish and put in place the cast iron floor frames, etc., and also the galvanized iron linings for pedestals as fully shown by the details on drawing No. 459. The flue linings to be constructed as specified under galvanized iron work and all of same except for pedestal in room No. 2 first floor must be covered with 2" thick terra cotta as fully shown by details. The terra cotta covering must be set in cement and securely fixed and anchored in place and on top be provided with rough tongued and grooved covering nailed to suitable frames as shown. The galvanized iron linings to have register boxes provided with cleats for securing registers and also to be wrapped with $\frac{1}{16}$ " thick asbestos board held in place by wiring wrapped around same.

The three circular hot air and lookout pedestals of Post Office working room which are to be included in this contract are constructed of wrought iron frames consisting of I beams, angle and tee irons securely riveted and bolted together and wood framing, all as shown in detail upon drawing No. 459. This contractor is required to do all cutting of floors and frame additional I beams, etc., to present iron construction and also secure all verticals in an approved manner as shown. All fireproofing of present beams must

be removed and wood work protected with new fireproofing as indicated. All wood framing to be securely screwed and bolted together and including the exposed wood work to be of white oak in accordance with exterior finish of first floor. Exposed wood work to be properly finished in the same manner as the rest of the wood work on first floor.

Approach to lookouts to be sheathed with tongued and grooved stuff while all hot air passages, etc., must be lined with galvanized iron as shown upon the drawings. Spaces between outside and inside wood sheathing and the galvanized iron linings must be filled solid with mineral wool. Special hot air and lookout registers of the sizes shown upon the drawings and ladders and trap doors to lookouts as indicated, must be furnished and securely fixed in place.

The ten vent pedestals of Post Office working room are to be constructed of cast iron in strict accordance with details shown upon drawing No. 459 and securely connected with the vent ducts on basement ceiling. The pedestals are to be securely bolted together and provided with perforated faces as indicated. Contractor is to do all cutting of floors for said pedestals and also furnish and place the cast iron flanged sleeves through floor as shown, which sleeves are to be provided with lugs for securing pedestals.

Registers.

All heating and ventilating registers (including lookout registers for circular pedestals) throughout the building are to be furnished of the sizes marked on the drawings and properly placed and secured in the various openings for same where shown. Registers to be of approved construction, lattice pattern, black Japanned and secured with cleats riveted to mouth openings of flue and pedestal linings. Register faces and wood work are in addition to said fastening secured to wood work with screws. All registers opening directly into main vent shafts, etc., are to be provided with inverted hoods, as shown, wired at both ends, and provided with cleats, for securing registers. Top registers to be provided with strong cords and indicating tassels.

Registers for large flues of center court space to be without valves consist of wire grilles constructed of No. 9 wire $1\frac{1}{4}$ " square mesh secured to $\frac{1}{4}$ "x $1\frac{1}{2}$ " wrought iron frames which later are to be secured to flue linings in an approved manner.

Grilles to be painted in tints as directed.

77

Air Supply and Ventilation.

The entire building will be supplied with fresh warmed air and basement, first and mezzanine floors will be ventilated by the combined plenum and aspiration systems, while the rest of the building will be ventilated by the combined plenum and aspiration systems, while the rest of the building will be ventilated by the aspiration system all as indicated on the drawings.

Fresh Air Supply to Indirect Radiator Chambers.

Fresh air of sufficient volume is to be discharged into the several indirect radiator chambers and engine and boiler rooms by fan blowers Nos. 1 and 3 located where shown upon the drawings. Fan blower No. 2 is to discharge air into the heating chamber for centre court as indicated. The air will enter the cold air chambers built by this contractor, pass through filters and pre-heating coils and by means of above blowers forced through systems of galvanized iron air ducts constructed as hereinafter specified to the various chambers. Where required by the drawings the branch ducts are to be divided as shown and run alongside of girders to chambers as indicated by the sections. Each duct to each chamber is to be provided with sliding damper constructed as specified. Air supply ducts to center indirect radiator chambers which also supply air to engine and boiler rooms must be constructed in cold air chambers adjoining the radiator chambers as indicated, to prevent communication with radiator chambers.

Cold-air Gratings.

The windows to cold air chambers as indicated on drawings Nos. 331, 461, 462 and 463, are to be provided with wire screens, constructed of No. 9 B. W. G. wire fastened to wrought iron frames of $1\frac{1}{2}$ " x $1\frac{1}{2}$ " grooved iron. Screens are to be properly fastened into the wood window frames with suitable screws. Mesh of screens to be $1\frac{1}{4}$ " diagonal and entire screens are to be galvanized.

78

Cold-air Filters.

Where shown upon drawings Nos. 331, 461, 462 and 463, cold air filters are to be placed and securely fixed in place. Said filters are to be constructed in strict accordance with the details shown upon drawing No. 460. Approved air filtering cloth is to be stretched and fastened upon hard wood frames of dimensions shown. Said frames are to be movable and secured into angle, bar, tee iron and wood frame construction with suitable latches or bolts. The angle iron at top and bottom of filter frames to be properly bent and secured in place. Tops of filters to be closed with galvanized sheet iron and filters fitted against ceiling with angle and sheet iron to prevent all air from passing in except through filter cloth. The entire frame work to be of the sizes shown and securely riveted and bolted together and fixed in position.

Blower Fans and Engines.

Three blower fans of first class and approved construction, not less than eight feet in diameter and not less than four feet wide are to be furnished and located where shown on drawings Nos. 331, 332, 461, 462 and 463.

The fans to have steel plate housings and top discharge, as indicated on the sections. Bearings and boxes for fan wheel shafts to be of modern and approved form and arrangements for oiling must be such as to absolutely prevent heating of same, and are not to be attached or connected in any way to the housing of fans.

Each blower fan, when running at a speed of not over 180 revolutions per minute must be capable of discharging not less than 1,250,000 cubic feet of air per hour into the different indirect heating chambers, etc.

Each blower fan is to be provided with a horizontal automatic cut off steam engine, specially designed for this class of work, strongly constructed in every detail, suitable for continuous work, and of sufficient power to drive fans properly, which however

79 must be less than twenty-two actual horse power each.

The blowers, engines and bearing boxes are to be properly anchored to suitable brick foundations in the position indicated on the drawings, extending not less than 3' 6" below basement floor line and built on 1' 6" thick concrete foundation 8" larger all around than brick footings. The engine and bearing foundation to have dressed stone copings on top 8" thick with beveled edges. Brick foundation of fans must be laid in cement, which latter is also to be used for plastering brickwork inside of fan housings.

Blower fans and engines are to be set perfectly true so that same will run smooth and easily and without noise.

All steam, exhaust and drip pipes in connection with the engines are to be run as shown on the drawings and as hereinbefore specified.

The engines are also to be provided with proper size nickel-plated sight feed cylinder lubricators of approved pattern properly connected, and all other nickel-plated oil cups required.

The engines to be directly connected to fans as indicated and where fan shaft passes through walls suitable sleeves are to be built in.

Bidders must state whose make of blower fans and engines they propose to use and give catalogue number of same.

Air Supply to Direct Radiator Boxes.

The cast iron sub-sills and brick boxes below windows with air supply will be placed by the contractor for interior finish. This contractor, however, is to furnish all galvanized iron sleeves and boxes from same to below the box bases of radiators in accordance with the details shown on drawing No. 345. Said boxes must

80 be accurately fitted in place and flanged over flooring so that no air can pass into rooms except through boxes. Boxes must be properly bedded in concrete on top of floor arches and any necessary cutting of present concreting must be done by this contractor. The galvanized iron cold air boxes from sub-sills of windows on upper floors down to floor are also included in this contract.

Galvanized Iron Work.

The overhead fresh air and vent ducts in basement; the vent ducts in all upper stories and in loft, the vent ducts from toilet rooms

to vent shafts and independent ducts in connection with same up in shafts, the new hot air and new vent flue linings and pedestal linings, the inside lining of large pedestals in Post Office working room and large flues to interior court, the cold air ducts to bases of direct radiator, inverted hoods where register and ducts discharge into vent shafts the filling boxes in indirect radiator chambers and sleeves in floors for riser pipes will be of No. 24 B. W. G. galvanized iron except linings of large pedestals in Post Office working room and ducts that have a dimension of over 42" which are to be constructed of No. 20 B. W. G. galvanized iron.

All ducts and linings to be of the sizes marked on the drawings, properly connected and held in position by wrought iron hangers of approved construction and spaced not over ten feet apart in a first class manner. Hangers for large ducts to consist of $5/16"$ x 2" bar iron supported by $5/8"$ hanger rods, secured with suitable beam clamps.

All seams of ducts to be double diveted with tinned rivets or double locked seams of approved construction; with all exposed ends of ducts or inverted heads, etc., strongly wired.

All surface of ducts 24" and over to have stiffening ribs of same material shaped as per sketch, riveted on and spaced 30" apart.

(Sketch.)

81 All large ducts constructed of No. 20 galvanized iron are to be constructed by riveting sheets to $1\frac{1}{2}"$ angle iron framing securely riveted together. All ducts from fan blowers to radiator chambers, etc., in basement must be air tight.

Ducts to have offsets, and to change their shape as required to avoid framing and so as not to interfere with grade of piping.

The ventilation of toilet rooms to be kept entirely separate from all other ventilation as fully shown upon the drawings.

Vent ducts on upper floors except loft will run above false ceilings and behind cornices etc.

Fresh Air Dampers and Frames.

Controlling dampers constructed as per detail on drawing No. 345 to be placed in air supply duct or ducts to each indirect radiator near radiator chamber. Frames to be of cast iron as shown, in two parts, bolted together, and dampers proper to be of $1/16"$ thick iron galvanized with rivet to prevent withdrawal, and set screw to hold damper in any desired position.

Vent Shaft Ladders.

Each of the four (4) main vent shafts is to be provided with a wrought iron ladder, extending from bottom to top of shaft, constructed of $1\frac{1}{2}"$ x $2\frac{1}{2}"$ bar and $3/4"$ diameter round iron as shown on drawing No. 357.

The ladders are to be held in place by $\frac{1}{2}$ " thick bent wrought iron plates securely bolted to ladders and the floor beams of building as indicated on the drawing.

Vent Shaft Platforms.

Three (3) of the main vent shafts, viz., the northwest, southwest and southeast shafts are to be provided with wrought iron platforms in each story. The platforms to be constructed of $\frac{1}{2}$ " x $2\frac{1}{2}$ " and $\frac{1}{4}$ " x 1" bar iron securely riveted together as shown on drawing No. 357.

These platforms must be held in place by $\frac{1}{2}$ " thick bent wrought iron plates securely bolted to sides of platforms and the floor beams of building as indicated on the drawing.

Vent Shaft Covers.

The covers for three (3) of the main vent shafts, viz., the northwest, southwest and southeast shafts are to be provided and put in place by this contractor.

These vent shaft covers are to be constructed and secured in place as fully shown on drawing No. 357.

The contractor is required to verify the dimensions given on the drawings by measurements at the building.

The covers are to be constructed of flange, angle, tee and sheet iron as fully shown in detail on drawing. The several parts are to be securely and properly riveted and bolted together and supported on angle and tee iron columns securely fastened to the iron framing of shafts as indicated on drawing No. 357.

Where the smoke stacks, wrought iron vent, exhaust, drip and vapor pipes run through the vent shaft covers, sleeves are to be provided with proper flashings, etc., as shown on drawing.

The northwest vent shaft is to have no smokestack and the large sleeve through the center of cover must be provided with a $\frac{1}{8}$ " thick wrought iron cap securely fastened in place.

The three vent shafts at top are now lined with wood sheathing, asbestos mill board and corrugated copper and this contractor must carefully remove as much of same as is necessary for him to fasten the columns of cover to the framing of shaft. After cover is in place the lining of shaft must be put back in its original condition.

Vent Shaft Doors.

Wrought iron frames 2' 6" wide by 5' 0" high for the opening into vent shafts at south end of basement to be furnished and set. Frames to fit the entire openings and be secured to brickwork with $\frac{1}{2}$ " x 5" expansion bolts. Frames to be constructed of $\frac{1}{4}$ " x 4" bar iron with $\frac{1}{2}$ " x 1" bar iron riveted to frames to form stops for doors.

The doors to be constructed of $\frac{1}{8}$ " thick boiler iron, riveted to $\frac{1}{4}$ " x 4" frame plates on sides, top, bottom and center. The doors to be

fastened with hinges to the above wrought iron frames, doors to have hasp and padlock.

Cast Iron.

All cast iron must be of the best quality, sound, true, out of wind, free from defects. Moulded and ornamental parts to be fine "Stove" castings, sharp and clean.

Painting and Bronzing.

All iron work, except ducts in loft, to be painted all over one coat best quality oxide of iron and pure linseed oil, or best metallic paint. All pipes cast iron trenches and other work under ground to have two coats of the above paint before being placed in position.

The exposed iron work in basement, etc., to have two additional coats, finishing tints to be approved. Boiler fronts, pumps, engine, &c., to have polychromatic decorations in accordance with instructions from this office.

All the galvanized iron air and vent ducts exposed in basement to have three coats of paint, the finishing coat to be in accordance with tints of the rooms in which ducts are located.

84 The finishing coats to consist of the best quality white lead and pure linseed oil paint of the required tints.

All the direct and semi-indirect radiators and exposed risers, and pipes in connection therewith throughout the building, are to be handsomely bronzed all over. Floor and ceiling plates are also to be bronzed all over.

Radiators and pipes to be bronzed, will, before bronzing be properly painted one coat of suitable tint to suit hues of bronze used.

Pipe Covering.

After the entire work has been completed and the apparatus has been tested, etc., this contractor is required to cover all exposed high and low pressure steam and exhaust pipes in basement and the four main vent shafts and in loft over ninth story ceiling with the exception of vertical exhaust to atmosphere in it, west vent shaft as also all hot and cold water pipes exposed in basement and vent shafts with exception of cold water and fire standpipes in vent shafts are to be covered with best quality non-conducting fireproof sectional covering put on in a first class and approved manner using brass bands and special sectional covering for valves and fittings.

Domes of boilers, exposed smoke breechings; feed water and hot water heaters; condensation receiver and exhaust tank and all steam cylinders of all pumps are to be covered with first class non-conducting sectional blocks or plaster not less than 1½" thick with hard smooth finishing surface. Covering for smoke breeching must be suitable for fire heated surfaces, covering for high pressure steam pipes must be suitable for such pipes; while a different grade may be used for low pressure and exhaust and hot water pipes. Coverings for cold water pipes to be such as will prevent sweating of same.

Bidders will be permitted to specify and propose covering for the different surfaces which, however, in each case must be of the best kind of its respective kind.

85 After all the coverings have been applied and accepted, they are to be painted with two coats of best quality of fire-proof paint, the finishing tints of which are to be approved. Kind of covering bidders propose must be stated in his bid and samples of same must be submitted with the proposal.

Doors and Windows.

Doors and windows in walls to cold air and fan chambers, to be constructed of white pine, constructed complete in accordance with the rest of basement joiner work and to be furnished complete including hardware, etc.

Brickwork, Concreting, Plastering, &c.

All brickwork anywhere in connection with this contract, viz., Setting of boilers and construction of foundation for same; foundations for all—pumps, tanks, heaters, etc., radiator chambers; cold air and fan chambers; pipe trenches; cold air ducts under tower; walls in basement; vent shaft walls in basement; filling up of step footings, etc., of tower foundations; new floor arches; covering of vertical smoke breechings; enclosing of new vent flue linings in basement; concrete walls around drip tank; and all cutting of wall floors, etc., in connection with this contract and also all necessary excavating and removal of debris caused by this work to be performed by this contractor. All brickwork, etc., under this contract is indicated by hatched lines on the drawings. All walls to have concrete foundations as indicated.

Wherever fireproofing of present beams and girders, etc., has been disturbed by placing hangers, etc., this contractor must properly repair said work in a first class manner. All the brickwork in the basement must be started at once upon the award of the contract and immediately completed so that concrete floors of basement which are under another contract can be finished.

86 Bricks, Mortar, and Concrete.

The red bricks, fire bricks and face or front bricks for all the brick work will be of the best quality. A sample of each kind of brick to be used must be submitted to the Superintendent of the building, for approval before delivery.

The mortar for brickwork to be composed of $\frac{1}{3}$ by measure of fresh ground first quality Portland cement, and $\frac{2}{3}$ by measure of clean sharp sand, thoroughly mixed immediately before using.

All concrete to consist of five parts hard durable stone, broken to a size of 2" cubes, two parts clean sharp sand and one part of best hydraulic cement mixed thoroughly in the most approved manner; sand and cement to be mixed dry, water added to make a thin mortar,

the compound thoroughly mixed, then laid in trenches, etc., and tamped in proper manner until free water appears on the surface. Mortar for boiler setting to be as specified.

Damage.

The contractor will be held responsible for, and be required to make good at his own expense, any and all damaged to completed or other work which may be done or caused by his workmen.

Character of Work.

All material to be of the best quality, and the entire work to be of the best character, executed by skilled mechanics of the different branches, and completed to the satisfaction of the Superintendent and the Supervising Architect.

WM. MARTIN AIKEN,
Supervising Architect.

87 *Proposal for Boiler Plant, Low Pressure Steam Heating and Ventilating Apparatus, etc., for the U. S. Postoffice Building, Washington, D. C.*

Phila., Pa., Feb. 26, 1897.

Mr. Wm. Martin Aiken,
Supervising Architect,
Treasury Department,
Washington, D. C.

SIR:

We hereby propose to furnish all the labor and materials and fit in place complete the boiler plant; low pressure and exhaust steam heating and ventilating apparatus; hot and cold water supply and fire protection system and the water filtering plant of the U. S. Post Office Building, Washington, D. C., in accordance with drawings Nos. 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 456, 457, 458, 459, 460, 461, 462, 463 and 368 and the specification for the sum of one hundred and fourteen thousand seven hundred and seventy three dollars (\$114,773.00.)

Amount included in above proposal for boiler plant complete twenty nine thousand nine hundred and eighty two dollars (\$29,982.00.)

Amount included in above proposal for low pressure and exhaust steam heating and ventilating apparatus, except temperature regulation, sixty four thousand one hundred and eighty seven dollars (\$64,187.00.)

Amount included in above proposal for automatic temperature regulating apparatus, ten thousand two hundred and twenty-five dollars (\$10,225.00.)

Amount included in above proposal for hot and cold water supply and fire protection system, eight thousand three hundred and seventy-nine dollars (\$8,379.00.)

Amount included in above proposal for water filtering plant, two thousand dollars (\$2,000.00.)

88 Kind of covering—Asbestos Magnesia Sectional.

Time to complete—Two hundred and fifty working days.

Signature: THE PHILADELPHIA STEAM HEATING
COMPANY.

Address: 1513 Filbert St., Philadelphia, Pa.,
By CHARLES F. WOOD.

Names of individual members of firm—James A. Palmer, Charles F. Wood, John L. Moyer.

Name of corporation—Not incorporated.

W. M. AIKEN,

Supp. Archt., Feb. 26, '97.

NOTE.—We will furnish all the labor and materials and fix in place complete the entire system as above using the Peerless Vacuum System in place of the one specified, for the sum of one hundred and fourteen thousand dollars (\$114,000.00). We will furnish the above boiler plant complete using "Roney" furnaces in place of the furnaces specified for the sum of twenty-eight thousand four hundred and eighty-two dollars (\$28,482.00).

THE PHILADELPHIA STEAM HEATING
COMPANY.

By CHARLES F. WOOD.

C.

Printed Head.

Philadelphia, March 11, 1897.

Mr. C. G. Kemper,
Acting Supervising Architect,
Treasury Department,
Washington, D. C.

DEAR SIR:

Your letter ("R. F.") of March 9th, 1897, relative to our proposal of the 26th ultimo, for the boiler plant, low pressure steam heating and ventilating apparatus, &c., for the U. S. Post Office Building at Washington, D. C., is at hand and noted.

89 Replying thereto we would say, that if the Paul system is used instead of the one called for by the Department specification our price will be reduced by the sum of three thousand four hundred (\$3,400) dollars.

The above figure is based on using "one pipe" risers and radiator connections, together with the air line system, all as specified by the Paul Company, which specifications, we understand are in the possession of the Department.

In the matter of the various appliances proposed to be used, we would say, that we have made no definite selection and it will be not alone our duty but our pleasure as well, to meet the views of the Department in these matters.

We would prefer that the Department should name two or three of the standard appliances of each kind, one of which we will furnish, and should there be a preference, for one in particular among those named as standard we will use our utmost endeavors to gratify such a wish.

Our original proposal for the vacuum system is, of course, based on the Webster System, that being the only one which would fulfill the specifications. We did not receive the information that a proposal for the Paul System would be considered until too late to incorporate it in our bid, or we should have been pleased to name a price for this system also.

Our proposal for the Peerless vacuum system, which is similar in some respects to the Paul, and of which we enclose you a circular was based on a "Two pipe" steam system and the necessary air line in addition. If a supplementary proposal for this system will be considered, using one pipe risers and radiator connections, together with the proper air lines, the operation of which system we are perfectly willing to guarantee and to execute a supplementary bond covering such guarantee in such a sum as shall be required by the Department, our price will be reduced by the sum of four thousand (\$4,000) dollars.

We would request your special attention to this proposal, as we know from considerable experience with this system, that it
90 has some important advantages peculiarly its own.

In the matter of temperature regulation, we would say that we have two proposals for such appliances in almost the same amount, either of which we would accept. In addition thereto, we have a proposal for another system, in a very much smaller sum, but this system we should not care to use even were we allowed to do so by the Department, as we are particularly desirous of making this contract, if awarded to us a monument to our workmanship and a record with the Department to which we can point with pride.

The case of the water filters is similar to that of the temperature regulation, as we can furnish one of three of the standard filters, either of which we are sure will meet with the approval of the Department, and the variation in price is so small as to make practically no difference to us, so that we shall be pleased to furnish one of any two or three that may be named. The same remarks will apply to the blowers and engines also, and our proposal is based on one of the recognized standards. We have built so many blower plants and know so well the prices, &c., for such appliances, that we have not arranged for any special make nor gotten any special drawings for such material. There are three or four good makes on the market, and if the Department will name three or more as their standard one of them will be furnished and working drawings from which they are to be built will be furnished the Department for approval before the construction is commenced.

In conclusion we would say, that our entire proposal is based on the use of material which is of a recognized standard, but you can readily understand that in a work of this magnitude there is so little difference in the price of first-class material as to make the

special kind of no particular importance, and its selection more a matter of past relations with those supplying it, or a deference to the wishes of those for whom the work is done, than it is a matter of price.

It is our desire and will be our constant endeavor should
91 this work be awarded to us, to meet the views of yourself and your associates in its direction, and we are trusting to receive your careful consideration of our proposal and an award of the work to which we promise our prompt and careful attention.

We enclose you such prints, etc., as were furnished us for the various makes of material.

Yours very truly,

THE PHILADELPHIA STEAM HEATING
CO.,

By CHARLES F. WOOD,
C.

Dictated by Mr. Wood,

R. F. G. J. A. W. J. B. C. B. H. A.

Enclosure.

Treasury Department,

Office of the Secretary.

Washington, D. C., March 29, 1897.

The Philadelphia Steam Heating Company,
1513 Filbert Street,
Philadelphia, Pa.

GENTLEMEN:

Your proposal, dated the 26th ultimo, received under advertisement dated January 29, 1897, and opened on the 26th ultimo, to furnish all the labor and materials and fix in place complete the boiler plant, low pressure and exhaust steam heating and ventilating apparatus, hot and cold water supply, and fire protection system, and the water filtering plant, for the U. S. Post Office Building at Washington, D. C., in strict accordance with drawings numbers 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 456, 457, 458, 459, 460, 461, 462, 463 and 368, and the
92 specification, for the sum of one hundred and fourteen thousand seven hundred and seventy three dollars (\$114,773.00) less the sum of three thousand four hundred dollars (\$3,400) for using the Paul vacuum system, in lieu of the system specified, as set forth in your letter of the 11th instant addressed to the Acting Supervising Architect of the department, in net amount one hundred and eleven thousand three hundred and seventy three dollars (\$111,373.00), is hereby accepted.

I transmit herewith, under another cover, one copy of the specification and one set of the drawings, for the use of your workmen.

You will please furnish to the Supervising Architect, at once, the catalogue numbers and sizes of the blowers and engines to be used, and submit detailed drawings, in triplicate of furnaces, and the drawings and specifications, together with guarantee bond, of the manufacturers of the Paul vacuum system, as required by the specification.

It is understood and agreed that the work is to be completed within two hundred and fifty (250) working days from the date of the approval of your formal bond by the Secretary of the Treasury, and you are requested to communicate with Mr. John W. Kinsey, the superintendent of construction of the building, and arrange for the commencement and prosecution of the work.

It is understood and agreed that you must execute a formal contract, with bond in the sum of sixty thousand dollars (\$60,000.00) as a guarantee for the faithful performance of the work, a form for which will be sent you for execution, and return to this Department for examination, approval and file; and it is understood and agreed, further, that the said contract, with bond, must be executed and returned within five (5) days from the receipt by you of the said form.

It is understood and agreed, also, that the following appliances and materials are to be used in the construction of the work, viz:

The Hawley down draft furnaces;

"Locke," "Spencer" or "Kieley" improved damper regulator.

Two (2) number 6 Loomis improved water filters;

93 The "Worthington," or the Laidlaw-Dunn-Gordon Company's pumps, with "Detroit" sight feed lubricators;

Schenck's hose reels, (the hose to be approved from sample to be submitted);

The pump governor, controlling the return condensation of heating apparatus, to be of the Kieley make, of the size specified.

The feed and hot water heaters to be of special sizes, and of the National Pipe Bending Company's make;

The automatic temperature controllers for hot water heaters attached to steam, supply of heaters to be of the Kieley, or Curtis make;

Oil and steam separators to be of the "Stratton," "Austin" or "Kieley" improved make;

Steam traps to be standard ones as specified;

The "Davis" or Kieley make of back-pressure valve, and the Kieley pressure reducing valves, for both steam and water, to be used;

All indirect radiation, including the pre-heating coils, etc., to be of wrought iron;

The American Radiator Company's "Perfection" radiator to be used for all direct radiation without air supply;

The "Italian" flue radiators, with box bases extending under their entire length, to be used for semi-indirect radiation, or else the Griffling Iron Company's cast iron radiation must be substituted for the same, using the Brundy "Columbia" for direct radiation, and the same radiation with special box base arrangement, for the semi-indirect radiation.

The "Chapman" or the "Ludlow" gate-valves are to be placed on all of the high pressure steam pipes, in addition to the pipes specified.

The Jenkins Bros. or Fairbanks & Company's globe valves, the Tuttle and Bailey registers, the "Sturtevant," "American," or the Buffalo Forge Company's pattern of blower fans and engines, of the required sizes; the engines and blowers to be of the same make.

94 Magnesia sectional pipe covering, and suitable covering for water pipes, to be used, both to be approved from samples to be submitted by you.

It is understood and agreed that the Supervising Architect, will, at the proper time, inform you as to whether the Johnson, or the Powers, system of heat regulation must be used in the work, and his decision on this point will be final.

I have now to direct that you select from the list of specialties above named such as you may prefer to use in the work, and that you advise the Supervising Architect of this selection immediately.

The certified check, which accompanied your proposal, will be retained at this Department until the approval of your formal bond by the Secretary of the Treasury, of which you will be duly advised.

Please promptly acknowledge the receipt of this letter, a copy of which has been forwarded to the superintendent of the building, for his guidance.

Respectfully yours,

W. E. CURTIS,
Acting Secretary.

J. S. S. C. C. E. K. Aiken. S.

Contract Between the United States of America and The Philadelphia Steam Heating Company of Philadelphia, Pennsylvania.

Whereas, by advertisement duly made and published according to law, proposals were asked for furnishing all of the labor and materials required for the work herein provided for.

Whereas, the proposal of The Philadelphia Steam Heating Company, was furnished in response thereto, duly accepted on the twenty-ninth day of March, 1897, on condition that they execute a contract in accordance with the terms of their bid.

95 Now, therefore, this agreement, made and entered into by and between W. E. Curtis, Acting Secretary of the Treasury, for and in behalf of the United States of America, of the first part, and James A. Palmer, Charles F. Wood and John L. Moyer, partners trading under the firm-name of The Philadelphia Steam Heating Company, of the City of Philadelphia, County of Philadelphia, and State of Pennsylvania, of the second part.

Witnesseth: That the party of the second part for the consideration hereinafter mentioned, covenants and agrees to and with the party of the first part to furnish all of the labor and materials and do and perform all the work required to fix in place complete the boiler plant, low pressure and exhaust steam heating and ventilating apparatus, hot and cold water supply, and fire protection system, and the water filtering plant, for the Post Office Building, in the City

of Washington, County of Washington, and District of Columbia, using the Paul vacuum system, as set forth in letter dated March 11, 1897, addressed to the Acting Supervising Architect by said party of the second part; in strict and full accordance with the requirements of drawings numbered 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 456, 457, 458, 459, 460, 461, 462, 463, and 368, and such other detail drawings as may be furnished to the party of the second part by the Supervising Architect of the United States Treasury Department; the advertisement for proposals, dated January 29, 1897; General Instructions and Information; the specification for the work; the proposal dated February 26, 1897, addressed to the said Supervising Architect by the said party of the second part; and letter dated March 29, 1897, addressed to the said party of the second part by W. E. Curtis, Acting Secretary of the Treasury, accepting said proposal; and said letter dated March 11, 1897; a true and correct copy of which said papers is attached hereto and forms a part of this contract; and which said numbered drawings, bearing the signature of the said Supervising Architect and the signature of the said party of the second part, are on file in the office of the Supervising Architect of the United States Treasury Department, and are hereby made a part of this contract

And the said party of the second part further covenants and agrees that all of the materials used shall be of the very best quality; that all of the work performed shall be executed in the most skillful and workmanlike manner; and that both the materials used and the work performed shall be to the entire and complete satisfaction of the said Supervising Architect.

And the said party of the second part expressly covenants and agrees to use in said work the articles and materials named and described in said letter of March 29, 1897, addressed to said party of the second part by W. E. Curtis, Acting Secretary of the Treasury, and in those cases where by said letter it is left optional with the party of the second part to use one of several articles or appliances specified therein, they shall make immediate selection from the appliances and articles so enumerated and advise the Supervising Architect thereof; and will also use in said work either the "Johnson" or "Powers" system of heat regulations, as may hereafter be designated by said Supervising Architect; and will promptly furnish the guarantee bond of the manufacturers of the "Paul" vacuum system, and all details, drawings, specifications and information required by said Department specification.

It is further covenanted and agreed that the entire work shall be completed within two hundred fifty (250) working days from the date of the approval of the bond hereto attached; that any particular portion of the work herein provided for shall be completed within such reasonable time as may be hereafter definitely specified by the said party of the first part in written notice to the said party of the second part; and that should the said party of the second part fail to complete the entire work or any particular portion of the work within the time so specified, then the said party of the second part shall

forfeit to the said party of the first part one hundred (100) dollars per diem, as liquidated damages, for each and every day thereafter until the completion of the same; provided, that if, through any fault of the party of the first part, the party of the second part is delayed in the execution of the work included in this contract, the party of the second part shall be allowed one day additional to the time above stated for each and every day of such delay so caused, the same to be ascertained by the Supervising Architect; provided, further, that no claim shall be made or allowed for damages which may arise out of any delay caused by the party of the first part.

The party of the second part further covenants and agrees to hold and save the United States harmless from and against all and every demand, or demands, of any nature or kind, for, or on account of, the use of any patented invention, article, or appliance, included in the materials hereby agreed to be furnished under this contract.

It is further covenanted and agreed by and between the parties hereto that the said party of the second part will, at their own expense, comply with all municipal building ordinances and regulations, in so far as the same are binding upon the United States, and obtain all required licenses and permits, and be responsible for all damages to person or property which may occur in connection with the prosecution of the work; that all work called for by the drawings and specifications, though every item be not particularly shown on the first or mentioned in the second, shall be executed and performed as though such work were particularly shown and mentioned in each respectively, unless otherwise specifically provided; that all materials and work furnished shall be subject to the approval of the said Supervising Architect; and that said party of the second part shall be responsible for the proper care and protection of all materials delivered and work performed by them until the completion and final acceptance of same.

It is further covenanted and agreed by and between the parties hereto that the said party of the second part will make any omissions from, or additions to, the work or materials herein provided for whenever required by said party of the first part; the valuation of such work and materials, if not agreed upon, to be determined on the basis of the contract unit of value of material and work referred to; or, in the absence of such unit of value, on prevailing market rates; which market rates, in case of dispute, are to be determined by the said Supervising Architect, whose decision with reference thereto shall be binding upon both parties; and that no claim for damages, on account of such changes or for anticipated profits, shall be made or allowed.

It is further covenanted and agreed that no claim for compensation for any extra materials or work is to be made or allowed, unless the same be specifically agreed upon in writing or directed in writing by the party of the first part; and that no addition to, or omission from, the work herein specifically provided for shall make void or affect the other provisions or covenants of this contract, but the difference in the cost thereby occasioned, as the case may be, shall be added

to or deducted from the amount of the contract; and, in the absence of an express agreement or provision to the contrary, no addition to, or omission from, the work herein specifically provided for shall be construed to extend the time fixed herein for the final completion of the work.

It is further covenanted and agreed by and between the parties hereto that all materials furnished and work done under this contract shall be subject to the inspection of the Supervising Architect, the superintendent of the building, and of other inspectors appointed by the said party of the first part, with the right to reject any and all work or material not in accordance with this contract; and the decision of said Supervising Architect as to quality and quantity shall be final. And it is further covenanted and agreed by and between the parties hereto that said party of the second part will at their expense, within a reasonable time to be specified by the Supervising Architect, remedy or remove any defective or unsatisfactory material or work; and that, in the event of their failure immediately to proceed and faithfully continue so to do, said party of the first part may have the same done and charge the cost thereof to the account of said party of the second part.

99

It is further covenanted and agreed by and between the parties hereto that until final inspection and acceptance of, and payment for, all of the material and work herein provided for, no prior inspection, payment or act is to be construed as a waiver of the right of the party of the first part to reject any defective work or material or to require the fulfillment of any of the terms of the contract.

It is further covenanted and agreed by and between the parties herein that if the said party of the second part shall fail to complete the work herein contracted for, or any part thereof, in accordance with this agreement within the time herein provided for, or shall fail to prosecute said work with such diligence as in the judgment of the party of the first part will insure the completion of the said work within the time hereinbefore provided, the said party of the first part may withhold all payments for work in place until final completion and acceptance of same, and is authorized and empowered, after eight days' due notice thereof in writing, served personally upon or left at the shop, office, or usual place of abode of the said party of the second part, or with their agent, and the said party of the second part having failed to take such action within the said eight days as will, in the judgment of the said party of the first part, remedy the default for which said notice was given, to take possession of said work in whole or in part and of all machinery and tools employed thereon and all materials belonging to the said party of the second part delivered on the site, and, at the expense of said party of the second part, to complete or have completed the said work, and to supply or have supplied the labor, materials, and tools, of whatever character necessary to be purchased or supplied by reason of the default of the said party of the second part; in which event the said party of the second part shall be further liable for any damage incurred through such default and any and all other breaches of this contract.

And the said party of the first part, acting for and in behalf of the United States, covenants and agrees to pay, or cause to be paid, unto the said party of the second part, or to their heirs, administrators, executors or assigns, in lawful money of the United States, in consideration of the herein recited covenants and agreements made by the party of the second part, the sum of one hundred eleven thousand three hundred seventy three (\$111,373.00) dollars, (being the amount of said proposal \$114,773.00, less three thousand four hundred (3,400.00) dollars for using the "Paul" vacuum system—in lieu of system specified as set forth in letter dated March 11, 1897, addressed by said party of the second part to the Acting Supervising Architect.

Payments to be made in the following manner, viz.: Payments of eighty (80) per cent (eight (8) tenths) of the value of the work actually executed and in place will be made monthly; an additional payment of ten (10) per cent [one (1) tenth] will be made upon completion of a test of the heating apparatus at the expense of said party of the second part, and the final payment of ten (10) per cent [one-tenth] will be made after the heating apparatus shall have been operated to the complete satisfaction of said Supervising Architect for one heating season.

And the approval and acceptance of the same by the party of the first part, which amount shall be forfeited by said party of the second part in the event of the non-fulfillment of this contract; it being expressly covenanted and agreed that said forfeiture shall not relieve the party of the second part from liability to the party of the first part for any and all damages sustained by reason of any breach of this contract.

It is an express condition of this contract that no Member of Congress, or other person whose name is not at this time disclosed, shall be admitted to any share in this contract, or to any benefit to arise therefrom; and it is further covenanted and agreed that this contract shall not be assigned.

In witness whereof, the parties hereto have hereunto subscribed their names this twenty-ninth day of March, A. D. 1897.

The printed matter beginning with the word "and" in line 101 twenty-eight and ending with the word "work" in line thirty-one was erased before the execution thereof.

W. E. CURTIS,

Acting Secretary of the Treasury.

AIKEN.

PHILADELPHIA STEAM HEATING CO.,

By CHARLES F. WOOD,

Contractors.

We hereby certify that this contract and bond have been correctly prepared and compared.

JAS. A. WETMORE,

Chief of the Law and Records Divisions.

RICHARD FOURCHY,

Chief of the Computer's Division.

Witnesses to the signature of the Contractor:

ROBT. HEALEY,
JASPER W. LYNCH.

Bond.

Know all men by these presents, that we, James A. Palmer, Charles F. Wood and John L. Moyer, partners doing business under the firm name of The Philadelphia Steam Heating Company, of the City of Philadelphia, County of Philadelphia, and State of Pennsylvania, principals, and the American Bonding and Trust Company of the City of Baltimore and State of Maryland, a corporation duly authorized to become sole surety to the United States, surety-s are held and firmly bound unto the United States of America in the sum of Sixty thousand (\$60,000.00) dollars lawful money of the United States, for the payment of which, well and truly to be made to the United States, we bind ourselves, our heirs, executors, and administrators, jointly and severally, firmly by these presents.

Sealed with our seals and dated this thirty-first day of March, A. D. 1897.

The condition of the above obligation is such, that whereas the said Philadelphia Steam Heating Company, have entered into a certain contract, hereto attached, with W. E. Curtis, Acting Secretary of the Treasury, acting for and in behalf of the United States, bearing

102 date the twenty-ninth day of March, A. D. 1897. Now, if the said Philadelphia Steam Heating Company shall well and truly fulfill all the covenants and conditions of said contract, and shall perform all the undertakings therein stipulated by them to be performed, and shall well and truly comply with and fulfill the conditions of, and perform all of the work and furnish all the labor and materials required by, any and all changes in, or additions to, said contract which may hereafter be made, and shall perform all the undertakings stipulated by them to be performed in any and all such changes in, or additions thereto, notice thereof to the said sureties being hereby waived, and shall promptly make payment to all persons supplying them labor or materials in the prosecution of the work contemplated by said contract, then this obligation to be void; otherwise to remain in full force and virtue.

In testimony whereof, the said James A. Palmer, Charles F. Wood, and John L. Moyer, partners doing business under the firm name of The Philadelphia Steam Heating Company, principals, and the American Bonding and Trust Company of Baltimore City, surety, have hereunto subscribed their hands and affixed their seals the day first above written.

JAMES A. PALMER. [SEAL.]

CHARLES F. WOOD. [SEAL.]

JOHN L. MOYER. [SEAL.]

THE AMERICAN BONDING AND TRUST
COMPANY OF BALTIMORE CITY,

By JAS. BOND, [SEAL.]

[SEAL.]

President.

Attest:

JOS. T. STONE,
Secretary.

Signed, sealed, and delivered in presence of—

ROBT. HEALEY.
JASPER W. LYNCH.
ROBT. HEALEY.
JASPER W. LYNCH.
ROBT. HEALEY.
JASPER W. LYNCH.

HOWARD ABRAHAMS,
A. LEO JONES,
As to Surety.

103

(Copy.)

EXHIBIT D.

Proposal for Supplemental Work.

C.

Printed Head.

Philadelphia, January 19th, 1898.

Mr. Thomas C. Steward,
Superintendent of Construction,
United States Post Office,
Washington, D. C.

DEAR SIR:

Answering further your letter of January 13th which matter has been held, owing to the absence of the writer from the city, we beg to advise you that since making our proposal for the changes in the work in the building under your charge on January 6th, we have been advised of a still further increase in the price of certain materials which enter into this change and our proposal for the work in question instead of being as named in our previous letter, will now be as follows:

For furnishing all labor and material to construct and erect the steam heating apparatus in the building under your charge in accordance with the revised plans and specifications instead of as originally laid out, using the Johnson system of Temperature regulation the sum of fifty-two hundred and ninety-two dollars, (\$5,292.00), or for the same work using the Powers system of Temperature regulation, the sum of fifty hundred and ninety-two dollars. These totals are divided as follows:

To difference in price of Radiation, direct, indirect bases and dampers, etc., between quotations of February, 1897, and January, 1898	\$1,680 00
--	------------

104

To difference in price of automatic regulation as per the Johnson proposal	867 00
--	--------

To difference in price of registers between quotations of February, 1897, and January, 1898	487 00
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To cost of changing main water supply risers both hot and cold and constructing new outlets therein as required; rearranging three of the fire service risers to bring the outlets at the proper points for making the hose reel connections and for removing and re-erecting in a new location the fourth fire service riser and rearranging parts of the steam piping on the eighth and ninth floor- and certain of the risers to comply with the new plan, less labor and material omitted on inside risers and in vent shafts, the sum of.	345 00
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To 8,000 pounds additional galvanized iron work on the 9th floor less 2,000 lbs. omitted on the lower floors a net increase of 6,000 lbs. erected at 15 cents per pound	900 00
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Second, third and fourth floor galvanized iron work made and delivered in the building, previous to May 8th, 1897 and not erected 10,137 pounds at 10 cents.	1,013 00
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Total as above	\$5,292 00
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Difference in price of Powers regulation \$213.00 called for convenience	200 00
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As above	\$5,092 00
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Trusting that this information may prove of the anticipated service, we are

Yours respectfully,

THE PHILADELPHIA STEAM
HEATING CO.,
By CHARLES F. WOOD.

105

(Copy.)

EXHIBIT E.

The Supplemental Contract.

B1. C. J. E. P. J. A. W. G. H. A.

Treasury Department,
Office of the Secretary.

Washington, D. C., March 3, 1898.

The Philadelphia Steam Heating Company,
Care Superintendent Post Office (new),
Washington, D. C.

GENTLEMEN:

Referring to that portion of your contract dated March 29, 1897, for the heating, etc., of the new Post Office building in this city, in which it is covenanted and agreed that you will use in said work either the "Johnson" or the "Powers" system of heat regulation as may hereafter be designated by the Supervising Architect, and said Supervising Architect having designated, by letter of even date addressed to the Superintendent of Construction of said building, the "Powers" system of heat regulation as the one to be used in said work, you are advised that the action of the Supervising Architect is approved by the Department, and you will use said "Powers" system in said work, which system you are required by the terms of your contract to guarantee for a period of five years.

You are further advised that, in accordance with the approval of the Department, your proposal, dated the 19th ultimo, addressed to the Superintendent of Construction of the Post Office building, Washington, D. C., to furnish all the labor and material required to construct, install and erect the heating and ventilating apparatus in the building named from the second floor upwards in accordance with the revised drawings numbered 335a, 336a, 337a, 338a, 339a, 340a, 341a, and 342a, instead of as originally laid out for said floors, using the "Powers" system of temperature regulation for the entire building, for the total sum of five thousand and ninety-two dollars (\$5,092.00) a public exigency requiring the immediate performance of the work is hereby accepted, as an addition to your said contract, for the heating, etc., of said building, on condition that you furnish the formal consent of the sureties on your bond to said changes in your contract; it being understood and agreed that this addition is not to affect the time fixed in the original contract for the completion of the entire work, and that the same is without prejudice to any and all rights of the United States under the terms of said contract, and is without prejudice,

106

also, to the rights of the United States against the sureties on the bond executed for the faithful fulfillment thereof.

Please promptly acknowledge the receipt of this letter, a copy of which has been forwarded to the Superintendent of the building for his information and the files of his office.

Respectfully yours,
(Signed)

O. L. SPAULDING,
Assistant Secretary.

J. C. P. L. J. K. T. C. E. K.
S.

Form of Consent of Surety.

Whereas, on the 29th day of March, 1897, James A. Palmer, Charles F. Wood, and John L. Moyer, partners trading under the firm-name of The Philadelphia Steam Heating Company, of the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, entered into a contract with W. E. Curtis, acting as Secretary of the Treasury, for and in behalf of the United States of America, to fix in place complete the boiler plant, the low-pressure and exhaust steam-heating and ventilating apparatus, the hot and cold water supply, and the water filtering plant, etc., for the Post Office building in the city of Washington and District of Columbia, for the sum of one hundred eleven thousand three hundred seventy-three dollars (\$111,373), reference to which contract is hereby made as part thereof; and

Whereas, on the 31st day of March, 1897, the American Bonding and Trust Company, of Baltimore city, State of Maryland, became surety on the bond in the sum of of sixty thousand dollars (\$60,000), given by said Philadelphia Steam Heating Company
107 to guarantee the faithful performance of the conditions of said contract; and

Whereas, said Philadelphia Steam Heating Company, by letter dated January 19, 1898, addressed to the Superintendent of Construction of said building, proposed to furnish all the labor and material required to construct, install, and erect the heating and ventilating apparatus in said building from the second floor upwards in accordance with the revised drawings numbered 335a, 336a, 337a, 338a, 339a, 340a, 341a, and 342a, instead of as originally laid out for said floors, using the "Powers" system of temperature regulation for the entire building, for the total sum of five thousand ninety-two dollars (\$5,092) additional to said contract price of one hundred eleven thousand three hundred seventy-three dollars (\$111,373), which proposal was accepted by O. L. Spaulding, Assistant Secretary of the Treasury, acting for and in behalf of the United States of America, by letter dated March 3, 1898, addressed to said Philadelphia Steam Heating Company (copies of each of which said letters of January 19, 1898, and March 3, 1898, are attached hereto and are hereby made a part hereof), and copies of each of which said revised drawings, bearing the signatures of

the Supervising Architect of the Treasury Department and of the Philadelphia Steam Heating Company, are on file in the office of said Supervising Architect, and are hereby made a part hereof:

Now, therefore, know all men by these presents that we, James A. Palmer, Charles F. Wood, and John L. Moyer, partners trading under the firm-name of The Philadelphia Steam Heating Company, of the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, principals, and the American Bonding and Trust Company, of Baltimore city, State of Maryland, surety, hereby consent and agree to said modification of and addition to said contract as set forth in said Department letter of March 3, 1898, and hereby consent and agree to remain bound upon said bond, and thus are held and firmly bound unto the United States of America in the sum of sixty thousand dollars (\$60,000), lawful money of the

United States, for the payment of which well and truly to
108 be made to the United States we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Sealed with our seals and dated this eleventh day of March A. D. 1898.

The condition of the above obligation is such that if the said Philadelphia Steam Heating Company shall well and truly comply with the requirements of said contract dated March 29, 1897, and of said letter of January 19, 1898, and of said Department letter of March 3, 1898, and of said revised drawings, etc., and shall perform and fulfill all of the undertakings stipulated by it to be performed, and shall promptly make payment to all persons supplying it with labor and material in connection with said work, then this obligation to be void, otherwise to be and remain in full force and virtue.

It is understood and agreed that nothing contained in this instrument shall be construed as releasing the surety hereto from any obligation, liability, or undertaking resting upon it under or by virtue of the original contract dated March 29, 1897, hereinbefore referred to: Provided, That in no event shall the liability of the surety hereto exceed the sum of sixty thousand dollars.

In testimony whereof the said James A. Palmer, Charles F. Wood, and John L. Moyer, partners trading under the firm-name of The Philadelphia Steam Heating Company, principals, and the American Bonding and Trust Company, of Baltimore city, State of Maryland, surety, have hereunto subscribed their hands and affixed their seals the date above mentioned.

JAMES A. PALMER.

[SEAL.]

CHARLES F. WOOD.

[SEAL.]

JOHN D. MOYER.

[SEAL.]

Trading as The Phila. Steam Heating Co.

[SEAL.]

THE AMERICAN BONDING AND TRUST
COMPANY OF BALTIMORE CITY.

By JAS. BOND, *President*.

Attest:

SAMUEL H. SHRIVER,
Secretary.

Signed, sealed and delivered in presence of—

JASPER W. LYNCH,
ROBT. HEALEY,

109

Notary's Certificate.

STATE OF MARYLAND,

City of Baltimore, ss:

Personally appeared before me, a notary public in and for said City, the said James Bond, President of The American Bonding & Trust Company of Baltimore City, who signed the above obligation, and who made solemn oath that said corporation is worth six hundred thousand dollars (\$600,000) over and above their legal liabilities.

Sworn to and subscribed as above written, before me this 11th day of March, 1898.

JAS. BOND,

President.

[SEAL.]

HARRY W. RODGERS,

Notary Public.

NOTE.—Sufficiency of sureties should be certified to by the Judge or Clerk of the U. S. District Court, or by the U. S. District Attorney, of the district in which the contractor resides.

Office of the U. S. Attorney,

District of Maryland.

March 11th, A. D. 1898.

I hereby certify, that The American Bonding and Trust Company of Baltimore City, the surety who have signed the foregoing bond is known to me to be a corporation of the State of Maryland, and that I believe it to be amply sufficient security for the amount thereof, and that the bond is good.

W. S. MARBURY,

U. S. Attorney, Md.

110

EXHIBIT F.

Bill of Sale, Palmer to Wood.

This agreement, made and concluded this twenty-sixth day of March, in the year one thousand eight hundred and ninety eight

(1898) by and between James A. Palmer of Philadelphia, Pa., party of the first part, and Charles F. Wood of the same City and State, party of the second part.

Witnesseth, that for and in consideration of the sum of one dollar, (\$1) lawful money of the United States of America and other valuable considerations to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, the said party of the first part hereby grants, bargains sells and transfers unto the said party of the second part, all his right, title interest and good will in and to the business known as the Philadelphia Steam Heating Company heretofore carried on by said parties and one John L. Moyer at 1513 Filbert Street, in the City of Philadelphia, and State of Pennsylvania, under articles of partnership dated March 20th, 1895.

It is hereby agreed by and between the parties to these presents that a contract heretofore taken in the name of said partnership for furnishing the steam boilers required at Fort Hancock, N. J., shall be and is hereby transferred to the said party of the first part for his own use, and the said party hereby assumes all and every liability, covenant, agreement and condition whereby said partnership is bound on account of said contract. It is mutually agreed by these presents that the patents and patterns relating to said boilers which may have been paid for out of the funds of said partnership shall be and are hereby transferred to the said party of the first part, together with all pictures on the walls of office, considered as his personal property one roll top private desk, all printed matter relating to boilers, all electrotypes and cuts, photographs and drawings of boilers, plans of Hahneman Hospital, heating plant, Almshouse, Deaf and Dumb Asylum, one sleigh, one two wheeled business gig, one set of buggy harness, two

111 improved Dunning boilers, on floor of shop with all castings belonging thereto, all sheet iron casings, made up for the said Fort Hancock contract, together with all patterns of boilers, bases, grates, and dampers except dampers designated as Thermostat pattern, one half of all specification blanks, (these to have the heading removed,) all personal letters and papers together with Fort Hancock contract, and all letters pertaining thereto, together with boiler book, with all records connected therewith, copies of all letters relating to the Fort Hancock contract and to the boiler question with Motter or Sotter Brothers and of letters written to and received from the War Department, such magazines as may be desired with one letter press, it is hereby further understood and agreed that the party of the first part shall have the privilege of the occupancy of the back private office without cost for the term of ten days from March 28th 1898.

It is hereby agreed by the party of the second part that he will and he hereby does assume all the obligations and liabilities of said business for which the said party of the first part is or may become responsible, except those above stated, and it is also mutually agreed that the said party of the second part shall be and is hereby authorized to collect, receive and disburse any or all the moneys which are

now due or which may become due to said partnership and to take possession of and retain for his own use, all of the stock, tools, machinery, fixtures, books, papers, and property of whatsoever nature (not otherwise reserved in the above list) and property of whatsoever nature and description belonging to said business and remain in peaceful possession of the same, without let or hindrance from the said party of the first part or of any party or parties acting for him or in his behalf.

It is understood and mutually agreed that this contract shall include and apply to the parties hereto their heirs, administrators, successors or assigns.

In witness whereof the parties to these presents have her-
112 unto set their hands and seals the day and year first above written.

JAMES A. PALMER. [SEAL.]
CHARLES F. WOOD. [SEAL.]

Witnesses present:
ROBT. HEALEY.

I hereby assent to the provisions of the foregoing contract.
JOHN L. MOYER. [SEAL.]

Witnesses present:
ROBT. HEALEY.

EXHIBIT G.

Bill of Sale, Moyer to Wood.

This agreement, made and concluded this 26th day of March, in the year one thousand eight hundred and ninety-eight (1898), by and between John L. Moyer of Philadelphia, Pa., party of the first part, and Charles F. Wood, of the same city and State, party of the second part, witnesseth:

That for and in consideration of the sum of one dollar (\$1), lawful money of the United States of America and other valuable considerations to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, the said party of the first part hereby grants, bargains, sells and transfers unto the said party of the second part all his right, title, interest and good-will in and to the business known as The Philadelphia Steam Heating Co., heretofore carried on by said parties and one James A. Palmer at 1513 Filbert street, in the city of Philadelphia and State of Pennsylvania, under articles of partnership dated March 20, 1895.

It is hereby agreed by the party of the second part that he will and he hereby does assume all the obligations and liabilities of said business for which the said party of the first part is or may become responsible; and it is also mutually agreed that the said party
113 of the second part shall be and is hereby authorized to collect, receive, and disburse any or all the monies which are now

due or which may become due to said partnership and to take possession of and retain for his own use all of the stock, tools, machinery, fixtures, books, papers, and property of whatsoever nature and description belonging to said business, and remain in peaceable possession of the same without let or hindrance from the said party of the first part or of any party or parties acting for him or in his behalf.

It is understood and agreed between the parties hereto that this contract shall include and apply to the parties themselves, their heirs, administrators, successors or assigns.

In witness whereof the parties to these presents have hereunto set their hands and seals the day and year first above written.

JOHN L. MOYER. [SEAL.]
CHARLES F. WOOD. [SEAL.]

Witness:

ROBT. HEALEY.

I assent to the provisions of the foregoing contract.

JAMES A. PALMER. [SEAL.]

Witness:

ROBT. HEALEY.

Exhibit H

Bill of Sale, Wood to Moyer.

This agreement, made and concluded this 28th day of March, in the year one thousand eight hundred and ninety eighth (1898) by and between Charles F. Wood of Philadelphia, Pa., party of the first part, and John L. Moyer of the same City and State, party of the second part, witnesseth:

That for and in consideration of the sum of one dollar (\$1) lawful money of the United States of America, and other valuable considerations to him in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, the said party of the

first part hereby grants, bargains, sells, and transfers unto the said party of the second part one half of all his right, title, interest and good will in and to the business known as the Philadelphia Steam Heating Co. now being carried on under said style at 1513 Filbert Street, in the City of Philadelphia, by said party of the first part.

It is hereby agreed by the party of the second part that he will and hereby does assume one half of all the obligations and liabilities of said business for which the said party of the first part is or may become responsible and it is also mutually agreed that the said party

of the second part shall be and is hereby authorized jointly with said party of the first part to collect, receive, and disburse any or all the monies which are now due or which may become due to said business, and take possession of and retain for their joint use, all of the stock, tools, machinery, fixtures, books, papers and property of whatsoever nature and description belonging to said business, and remain in peaceable possession of the same without let or hindrance from the said party of the first part or of any party or parties acting for him or in his behalf.

It is understood and mutually agreed that this contract shall include and apply to the parties hereto, their heirs, administrators, successors or assigns.

In witness whereof the parties to these presents have hereunto set their hands and seals the day and year first above written.

CHARLES F. WOOD. [SEAL.]

JOHN L. MOYER. [SEAL.]

Witness:

L. PRESTON GATES.

115

II. *General Traverse.*

No demurrer, plea, answer, counterclaim, set-off, claim of damages, demand, or defense in the premises, having been entered on the part of the defendants, a general traverse is entered as provided by Rule 34.

III. *History of Proceedings.*

On March 3, 1906, a motion was filed requesting the substitution of F. Walter Brandenburg as attorney of record, with the withdrawal of former attorney, John C. Chaney, and power of attorney to said Brandenburg filed. This motion was allowed by the court March 6, 1906.

On October 20, 1919, argument of the case was begun and it was thereupon ordered, on suggestion of the court, that the case be submitted for tentative findings.

On January 6, 1920, the court filed an order referring case to Charles F. Kincheloe, auditor, for report.

On January 19, 1920, said auditor filed his report.

On February 25, 1920, the defendants filed exceptions to report of auditor.

On March 3, 1920, the plaintiffs filed objections to and suggested modifications of the tentative findings of fact.

IV. *Argument and Submission of Case.*

On March 10, 1920, this case was argued by Mr. E. C. Brandenburg, for the claimants, and by Mr. George T. Stormont, for the defendants, on objections to auditor's findings.

116 *V. Findings of Fact and Conclusion of Law.*

Entered March 29, 1920.

This case having been heard by the Court of Claims, the court upon the evidence makes the following

Findings of Fact.

I.

1. On January 25, 1897, the United States, defendant, through the Supervising Architect's Office of the Treasury Department, advertised for sealed proposals for the furnishing of all materials and labor for, and installation of, a boiler plant, low-pressure steam-heating and ventilating apparatus for the post-office building in Washington, D. C., in accordance with certain plans and specifications referred to in the advertisement.

2. Under date of February 26, 1897, the Philadelphia Steam Heating Co., of Philadelphia, Pa., a partnership consisting of James A. Palmer, and the plaintiffs, Charles F. Wood and John L. Moyer, submitted a proposal to perform said work for the sum of \$114,773.00. This proposal was, with certain modifications and conditions, including a reduction of the price for the work to \$111,373.00, accepted by the department, and a contract for the work was accordingly entered into, under date of March 29, 1897, which was finally approved by the department on April 5, following.

3. Said advertisement, proposal, and contract, including said specifications and the department's letter of acceptance of the proposal, are set forth in plaintiff's petition as Exhibits A, B, and C, respectively, and are by this reference made a part hereof.

II.

1. On or about March 26, 1898, the said James A. Palmer retired from the firm, and the partnership was thereafter composed of and carried on by the plaintiffs Wood and Moyer.

117

III.

1. The contract time for the completion of the work was 90 working days after the approval of the contract and bond, and expired about January 28, 1898. The work was substantially completed about August 1, 1899, approximately 18 months after the expiration of the contract period, and was accepted by the defendants in September following.

IV.

1. Upon the execution of the contract the plaintiffs started promptly to fabricate and forward material for the work from their Philadelphia plant and put the necessary equipment and organization on the job, renting a shop and yard in Washington for use in the work.

2. Actual work in Washington on the contract was commenced about April 18, 1897, and by May 1 following plaintiffs had about 40 workmen on the job.

V.

1. On May 8, 1897, while plaintiffs were proceeding with the work, they received a letter from the Secretary of the Treasury reading as follows:

"Referring to a contract with you for the heating and ventilating apparatus for the post-office building in this city, I have to advise you that as consideration is now being given to legislation which may affect the assignment in the building named it is desired that you defer all work incident to galvanized-iron vent duct work and running steam risers for interior rooms, including and above second story. As soon as the matter of the assignment of the building is determined you will be further advised, and an allowance will be made to you of one day additional for each day's delay caused by the Government, as provided for by your contract."

2. In response to said letter the plaintiffs on May 11, 1897, wrote the Supervising Architect as follows:

"We have the honor to acknowledge the receipt of your letter of May 8, 1897, notifying us to defer certain work included in our contract for the heating, etc., of the U. S. post-office building at Washington, D. C. We beg to advise you that in accordance with your instructions we have ordered all work stopped on the items enumerated in your letter and await your further commands, which shall have our prompt and careful attention."

3. On May 13, 1897, plaintiffs wrote the Supervising Architect in regard to this and another order of suspension, as follows:

"We beg to advise you that on May 11 we received verbal instructions from Mr. John W. Kinsey, superintendent of construction at the U. S. post office, Washington, D. C., to cease work on the galvanized-iron work in said building in the basement until such time as the plasterer shall have finished his work. These orders, together with those contained in the department letter of May 8, stop this branch of our work entirely. We are not objecting to

118 this, but we desire to call the department's attention to the matter in order that we may be entitled to extra time should we be unable to complete the work within the time named in our contract."

4. Following this suspension in this part of the work, the entire floor plan of the building on and above the second floor was changed and rearranged, which necessitated a radical change in the radiation plans of the heating system, and therefore made a radical change in the plaintiff's work in those stories of the building, and also some changes in the basement of the building.

5. The new or revised plans showing these changes in the heating system were furnished plaintiffs on December 11, 1897, and on January 6, 1898, in response to defendant's request, plaintiffs submitted a proposal for additional compensation on account of the labor and material to make said changes, the proposal being in the sum of \$4,443. On January 12, the Supervising Architect requested plaintiffs to show in the proposal each item and its value in detail, and in response to this request plaintiffs on January 19 submitted an itemized statement of the cost of the changes, amounting to \$5,092, stating that the increase in the amount was due to an advance in the cost of certain materials.

6. On March 3, 1898, the Assistant Secretary of the Treasury advised plaintiffs that their proposal of January 19 was accepted, and on March 4 following they were instructed by the superintendent of construction to push the work embraced in this proposal with all possible dispatch, so as not to interfere with the contractor for the interior finish. On March 5 the plaintiffs advised the superintendent of construction that they assumed that it was intended by the acceptance of said proposal that they should begin work upon the items covered therein, but in view of the order of suspension of May 8, 1897, and in order that their files might be complete, they desired definite instructions to proceed with the work included in said order of suspension. Accordingly, on March 9, 1898, the plaintiffs were notified by the Secretary of the Treasury that in view of his acceptance of their proposal to make the changes in question, the department letter of May 8, 1897, "directing the suspension of all work including and above the second story became of noneffect on and after the 3d instant."

7. The work affected by the said order of suspension of May 8, 1897, constituted a proportionately small part of the whole of the contract work; and up to the time of the discontinuance or termination of the suspension, plaintiffs had supplied materials and performed work aggregating in value about 70 per cent of the whole contract price.

8. It does not appear how much the completion of the contract work as a whole was delayed by said suspension, nor does the evidence satisfactorily show what loss the plaintiffs sustained by reason of this suspension and delay in the work.

VI.

1. On April 8, 1898, the plaintiffs were informed that certain general changes in the building, as shown by drawings inclosed, were being considered, and were directed to suspend until further notice such part of their work as might be affected thereby.

119 2. On April 26 the superintendent of construction forwarded to the plaintiffs revised drawings of the contemplated changes and requested them to submit as soon as possible a proposal for the extra work that would result from such changes, and on April 28 following such proposal was submitted by plaintiffs.

3. The proposed changes in the building also affected and made changes necessary in the work of other contractors; and as the combined amount of the proposals of the various contractors for such changes was in excess of the amount of the appropriation available therefor, the contemplated changes were abandoned; and the plaintiffs, on May 20, 1898, were directed to proceed with the work as theretofore planned.

4. This suspension related principally to the installation of galvanized-iron work in the upper stories and the installation of the temperature-regulation system above the first floor, the latter of which work was being done by the Powers Regulator Co. under a subcontract with the plaintiffs.

5. The evidence does not satisfactorily show either the amount of the delay in the completion of the contract, or what loss, if any, was sustained by plaintiffs on account of this suspension and interference with the work.

VII.

1. From about the latter part of June to some time in September, 1898, the greater part of the first floor of the building was temporarily occupied and used by a force of Treasury Department clerks engaged in getting out the Spanish War bond issue, which occupation interfered with and delayed the plaintiffs in taking measurements and ordering and installing the heating apparatus for these rooms.

2. The evidence does not satisfactorily show either the amount of delay in the completion of the contract resulting from this interference with the work, or what, if any, loss was sustained by the plaintiffs as a result of such interference and delay.

VIII.

1. On February 23, 1899, at which time there remained only a small amount of the contract work to be performed, the Secretary of the Treasury, because of the plaintiffs' failure and refusal to comply with the department's demands for the performance and

correction of certain items of work which plaintiffs contended were not required of them by the contract, notified the plaintiffs that if they did not, within eight days, take such steps as would satisfy or assure the department in the matter, the work would be taken over and completed by the Government at the plaintiffs' expense. Upon the plaintiffs' protest against such action and their suggestion that the matter in controversy be submitted to Capt. J. W. Collins, Engineer in Chief of the U. S. Revenue-Cutter Service, for determination, a board consisting of Capt. Collins and two other members was appointed by the department, by which board the questions in controversy were considered and decided, some in accordance with the department's contentions, and some in favor of the plaintiffs. The decisions and recommendations of said board were accepted and carried out by the parties to the contract.

120 2. During the approximately one month's time intervening between the said notice of February 23, 1899, and the report of said board, the said items of work in controversy were held in suspension awaiting the report of the board.

3. The plaintiffs appear to have sustained some loss by reason of this suspension and delay in the work, but the amount of such loss is not satisfactorily shown by the evidence.

IX.

1. In addition to the suspensions and delays shown by the preceding findings, there were numerous instances of delay in different items of the work, some of which were due and chargeable to the plaintiffs, but most of which were chargeable either directly to the defendants, or to the delay of other contractors on the building in performing work of theirs upon which work of plaintiffs depended.

2. The evidence does not satisfactorily show how much loss was sustained by plaintiffs from these different or individual delays in the work.

X.

The larger part of the delay of 18 months was chargeable to the United States, and it is impossible to determine from the evidence whether any part thereof was chargeable to the plaintiffs. On final settlement the United States did not charge the plaintiffs with responsibility for any part of the delay and did not charge any liquidated damages against the plaintiffs. It did extend the time for the completion of the contract by one day for every day of delay.

XI.

1. The specifications provided for copper-wire gaskets for the flanged joints in the larger high-pressure steam pipes. After these pipes were installed, leaks developed at many of the joints, and it was found that a corrugated sheet-copper gasket had been used instead

of the copper-wire gasket called for by the specifications. Plaintiffs were thereupon required to replace these gaskets with the copper-wire gasket specified, which, however, also proved unsatisfactory for such work, and leaks again developed in many of the joints. After repeated efforts by plaintiffs to make the joints tight with these gaskets, plaintiffs were advised that the gaskets were condemned, and they were directed to replace them with another kind of gasket. Plaintiffs protested against this requirement and refused to replace the gaskets, or to do any further work on them at their own expense. Thereupon, and upon the report of the said Collins board that copper-wire gaskets could not be relied upon to make a steam-tight joint in such work, defendants, at their own expense, had these gaskets replaced with another kind of gasket, by another contractor, at a cost of \$645.

2. The cost to the plaintiffs of their reworking the pipes after the installation of the copper-wire gaskets, in trying to make the joints tight with these gaskets, was \$1,290. It does not appear what was the cost to the plaintiffs of installing the corrugated sheet-copper gaskets first put in by them.

121

XII.

1. The smoke breechings, or connections, between the boilers and the smoke flues, as manufactured and brought on the job, were several inches too short, and the plaintiffs were permitted by the superintendent of construction to remedy this defect by means of a slip-joint extension where the breechings passed through the brick wall of the boiler settings at the rear of the boilers. There was no slip-joint called for by the contract, and it was considered that this slip-joint extension would also be of value in the way of taking care of the expansion and contraction of the breechings due to the varying heat. The angle-iron collars which were riveted around the breechings were shown by the drawings to fit up against the outside wall of the boiler settings, and were so constructed by the plaintiffs.

2. The construction and attachment of these slip joints and collars was poor, and unsatisfactory to the defendants, and the plaintiffs were subsequently required to reconstruct the breechings to make them conform to the requirements of the plans and specifications, which was done at a cost to them of \$450 for reconstruction of the breechings and \$250 for rebuilding of brickwork of the boiler settings damaged by expansion of the breechings.

XIII.

1. The plaintiffs were required to furnish, as being called for by the contract, certain stone coping around the ash-pit walls which was not specified or shown in the specifications and drawings. This coping was furnished by plaintiffs under protest that it was not required by the contract, and at a cost to them of \$250.

XIV.

1. The plaintiffs, in the early part of the work, put in a large number of noncontinuous, or two-piece, sleeves around the risers where they passed through ceiling and floor; that is, a separate piece each for the ceiling and for the floor, which sleeves they were thereafter required to replace with continuous sleeves, extending through and between ceiling and floor. These continuous sleeves were shown by the revised plans for changes in the work covered by the plaintiffs' proposal of January 19, 1898, and for which changes extra compensation was received by them. The cost to plaintiffs of changing these sleeves was \$125. It does not appear that the plaintiffs, at the time, made any formal protest or claim on account of this requirement on the ground of its being extra work.

XV.

1. The specifications required certain heating pipes to be covered with "best quality nonconducting fireproof sectional covering," and that the kind of covering a bidder proposed to use should be stated in his proposal, and samples of it submitted with the proposal. The plaintiffs' proposal specified "asbestos magnesia sectional," but samples were not submitted with the proposal.

122 2. In his acceptance of the plaintiffs' proposal, the Secretary of the Treasury stated, among other things, that it was understood and agreed that "magnesia sectional pipe covering" should be used, to be approved from samples to be submitted. Samples of the pipe covering proposed to be used by plaintiffs were not submitted by them until in August, 1898, and the first samples submitted were rejected by defendants. New samples were then submitted by plaintiffs, and approved by the Supervising Architect. These samples were not "magnesia sectional pipe covering," and the Supervising Architect's approval of them was without knowledge of this fact. Upon learning of this fact, the Secretary of the Treasury revoked the Supervising Architect's approval and required plaintiffs to use the magnesia sectional covering specified in the Secretary's said letter of acceptance of plaintiffs' proposal.

3. Plaintiffs formally protested against this requirement, but proceeded and put in the magnesia sectional covering specified in the Secretary's said letter of acceptance.

4. Prior to the revocation of the Supervising Architect's said approval, the plaintiffs had contracted for the kind of covering so approved, a large quantity of it had been delivered at the building, and some of it had been put in place on the pipes.

5. The covering which plaintiffs were required to use cost them \$1,378 more than would have been the cost of the material first approved by the Supervising Architect and afterward rejected; and plaintiffs sustained a loss of \$779.24 in cost of labor and material used and lost in putting on and removing this rejected covering.

XVI.

1. The plaintiffs brought with them from Philadelphia a number of skilled mechanics for steam-fitting, galvanized iron, and masonry work required by their contract, under agreement to pay them full time until the work in their respective branches was completed.

2. On account of the suspensions and delays in the work shown by the preceding findings, there were times when there was not work enough for all of these mechanics in their particular branches of the work. At such times plaintiffs, when possible, kept such mechanics at work on other heating and ventilating contracts which they had under way in Washington, of which they had quite a number during the continuance of their work on the post-office building; and when they had no work for them in their respective branches of work, plaintiffs kept them employed, as far as possible, on unskilled or common laborers' work, for which work unskilled labor could have been employed at a much less rate of wages than was paid these mechanics. Some loss was sustained by plaintiffs by reason of such use of skilled mechanics on common laborers' work, and also by reason of some of these mechanics not being at times fully employed, but neither the amount of this loss, nor the proportion of it resulting from the fault of the defendants, is satisfactorily shown by the evidence.

XVII.

1. The value of the services of the plaintiff Charles F. Wood, on the contract work during the time of the delay chargeable to the defendants in the completion of the work was \$4,000; and 123 the value of the services of their foremen, Healey and McClintock, on the work during such delay was -2,330.

XVIII.

1. The plaintiffs rented and maintained a yard and shop in Washington with necessary equipment, for use in their work in Washington. The rental of the yard and shop fairly chargeable to the plaintiffs' work on the post-office building during the period of delay caused by defendants in the completion of the contract was \$400 and the reasonable value of the use of the equipment on this work during such period of delay was \$800.

XIX.

1. The plaintiffs' overhead expenses chargeable to delay caused by defendants in the completion of the work, not including the items of cost shown by Findings XVII and XVIII above, was \$5,975.02.

XX.

1. The plaintiffs expended, for carrying on the work, the sum of \$2,088.65, as interest on money borrowed by them after the expiration of the contract period, which expenditure would not have been necessary but for the delay in the completion of the work caused by the defendants.

XXI.

1. No extra compensation appears to have been received by the plaintiffs on account of any of the items of cost, expense, or loss shown in these findings of fact.

XXII.

1. No claim for additional compensation on account of extra work performed or damage sustained in the performance of the contract was made by the plaintiffs at the time of the final settlement and payment on the contract by the defendants.

Conclusion of Law.

Upon the foregoing findings of fact the court decides, as a conclusion of law, that the plaintiffs are entitled to recover on Findings XI, XII, XIII, and XV in the sum of \$4,397.24. It is therefore adjudged and ordered by the court that the plaintiffs recover of and from the United States the sum of four thousand three hundred and ninety-seven dollars and twenty-four cents (\$4,397.24).

The petition is dismissed as to all other items of claim on the authority of the case of Merchant's Loan & Trust Company, 40 C. Cls., 117.

124

VI. *Judgment of the Court.*

At a Court of Claims held in the City of Washington on the 29th day of March, A. D., 1920, judgment was ordered to be entered as follows:

The Court, upon due consideration of the premises find in favor of the claimants and do order, adjudge and decree that Charles F. Wood and John L. Moyer, trading as the Philadelphia Steam Heating Company, as aforesaid, are entitled to have and shall have and recover of and from the United States, the sum of Four Thousand Three Hundred and Ninety-seven Dollars and twenty-four cents (\$4,397.24).

By THE COURT.

VII. *Proceedings After Entry of Judgment.*

On May 7, 1920, the claimants filed a motion for a new trial and request for modification of findings. This motion was overruled by the court June 1, 1920.

VIII. *Claimants' Application for and Allow- of an Appeal.*

From the judgment entered in the above-entitled cause on the 29th day of March, 1920, the claimants herein, Charles F. Wood and John L. Moyer, trading as The Philadelphia Steam Heating Company, hereby make application for and give notice of an appeal to the Supreme Court of the United States.

EDWIN C. BRANDENBURG,

Attorney for Claimants.

Filed June 7, 1920.

Ordered: That the above appeal be allowed as prayed for.
June 7, 1920.

By THE COURT.

125

IX. *Substitution of Attorney.*

On June 30, 1920, E. C. Brandenburg was substituted as attorney of record, by the court on motion made therefor, in place of F. W. Brandenburg, deceased.

Court of Claims.

No. 21556.

CHARLES F. WOOD and JOHN L. MOYER, Trading as The Philadelphia
Steam Heating Company,

vs.

THE UNITED STATES.

I, F. C. Kleinschmidt, Assistant Clerk Court of Claims, certify that the foregoing are true transcripts of the pleadings in the above-entitled cause; of the argument and submission of case; of the findings of fact and conclusion of law; of the judgment of the court; of the application of claimant for and the allowance of appeal to the Supreme Court of the United States.

In testimony whereof I have hereunto set my hand and affixed the seal of said court at Washington City this 30th day of June A. D., 1920.

[Seal of the Court of Claims.]

F. C. KLEINSCHMIDT,

Assistant Clerk Court of Claims.

Endorsed on cover: File No. 27,792. Court of Claims. Term No. 435. Charles F. Wood and John L. Moyer, trading as The Philadelphia Steam Heating Company, appellants, vs. The United States. Filed July 1st, 1920. File No. 27,792.

Supreme Court, U. S.
FILED
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WM. R. STANSBURY
CLERK

IN THE
Supreme Court of the United States

OCTOBER TERM, 1921.

—
No. 100.
—

CHARLES F. WOOD AND JOHN L. MOYER, TRADING AS THE
PHILADELPHIA STEAM HEATING COMPANY,
Appellants,

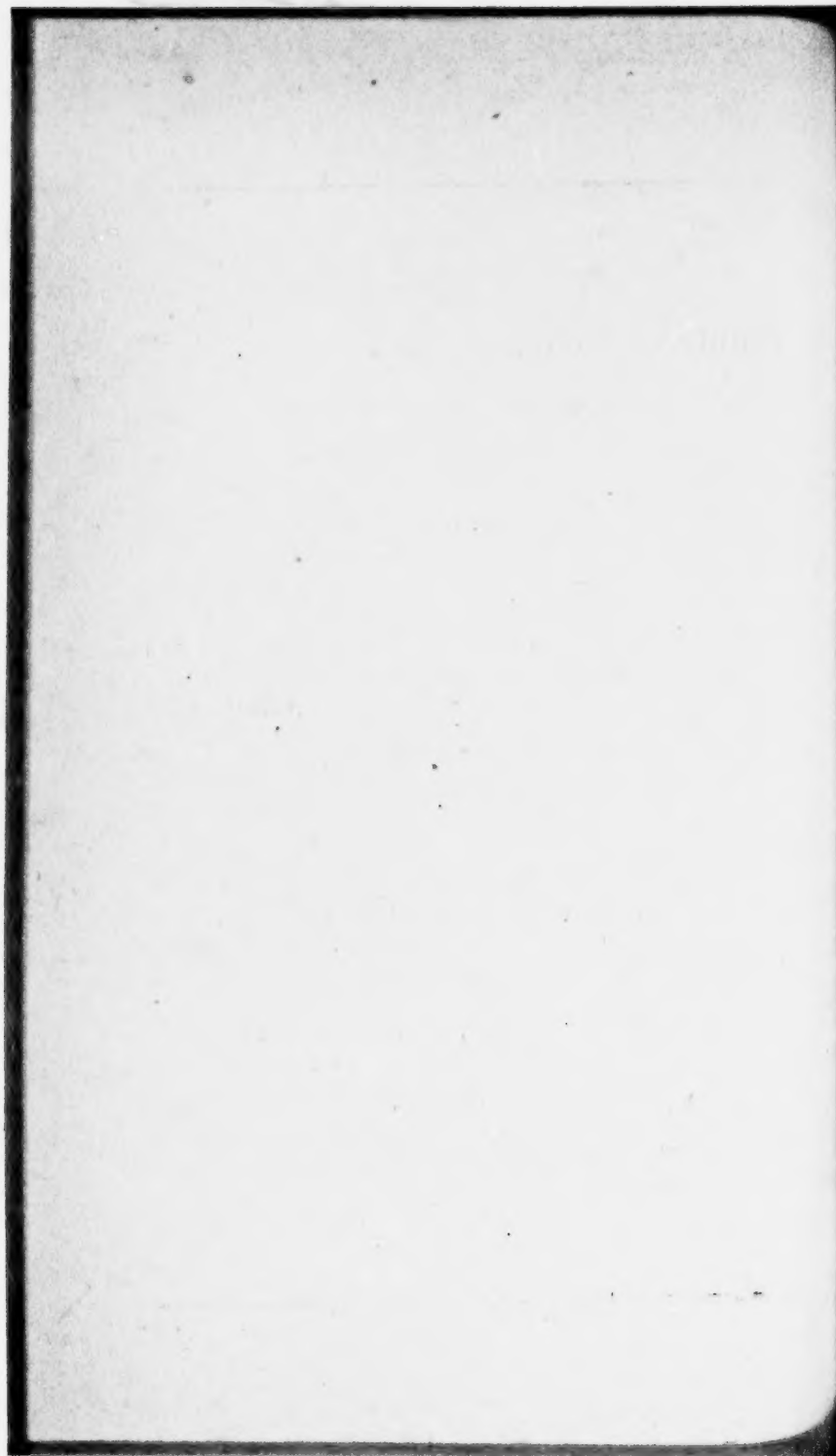
vs.

UNITED STATES.

—
BRIEF OF APPELLANTS.
—

EDWIN C. BRANDENBURG,
CLARENCE A. BRANDENBURG,
Attorneys for Appellants.

BRANDENBURG & BRANDENBURG,
Of Counsel.



INDEX.

	Page
Statement	1
Specifications of Error.....	5
Argument	5
Appellants Entitled to Compensation for Loss	
Resulting from Suspension of Operations..	6
(a) Suspension from May 8, 1897, to	
March 9, 1898	6
(b) Suspension from April 8, 1898, to May	
20, 1898	9
(c) Exclusion from First Floor from June	
to September, 1898	10
(d) Responsibility for eighteen months	
delay	11
The Legal Question Involved.....	12
Conclusion	20

CASES CITED.

Merchants Loan & Trust Co., 40 C. Cls. 117.....	12
Wells Brothers Co. vs. United States, 254 U. S. 83.	16



IN THE
Supreme Court of the United States

OCTOBER TERM, 1921.

No. 100.

CHARLES F. WOOD AND JOHN L. MOYER, TRADING AS THE
PHILADELPHIA STEAM HEATING COMPANY,
Appellants,

vs.

UNITED STATES.

BRIEF OF APPELLANTS.

STATEMENT.

On January 25, 1897, the Treasury Department advertised for proposals for furnishing the necessary material and labor to install a boiler plant, steam heating and ventilating apparatus in the Post Office Building at Washington, D. C., in accordance with certain plans and specifications.

Under date of February 26, 1897, the appellants sub-

mitted their proposal to do this work for \$114,773.00. After certain modifications, the price was reduced to \$111,373.00. The proposal was thereupon accepted, and a contract entered into under date of March 29, 1897, which was approved by the Department on April 5, 1897.

The time for completion of the work was 250 working days after the approval of the contract. This time expired January 28, 1898, but the work was not actually completed until August 1, 1899, approximately eighteen months after the expiration of the contract period, due to various suspensions of the work and parts of the work, together with other interference on the part of the Government.

Within about a month after the contract was approved and after appellants had diligently undertaken its prosecution, they were ordered to suspend all work on the eight upper stories which included the second story, because the Treasury Department had under consideration additional legislation which might affect the assignment of the building. Following this order of suspension, the entire floor plan of the building on and above the second floor was changed and rearranged, which necessitated a radical change in appellants work. It was not until March 3, 1898, more than a month after the contract should have been completed that a bid of appellants for the actual cost of making the changes due to the rearrangement of the building was accepted and they were permitted to resume operations.

Following the foregoing suspension, appellants were again on April 8, 1898, directed to suspend further operations because of further contemplated change in the building. As the combined proposals of the various contractors on the building to meet these changes

exceeded the amount of the available appropriation, appellants were directed on May 20, 1898, to proceed with the work as theretofore planned.

Following these two suspensions, the Government placed a force of clerks engaged in getting out the Spanish War Bond Issue in the building. They occupied the greater part of the first floor, which also prevented operations upon that floor by appellants. In addition to these suspensions of operations, there were numerous instances in which the orderly progress of the work was interrupted and interfered with and which resulted in loss of time which is directly chargeable to the Government.

The Court below found as a fact breach of contract on the part of the United States and rendered judgment in favor of the appellants for certain items of loss sustained. In its findings V, VI, VII and IX the Court found that the appellants were interfered in the performance of the contract with respect to the several matters therein mentioned but also found "that the evidence does not satisfactorily show either the amount of the delay in the completion of the contract or what loss, if any, was sustained by the plaintiffs on account of this suspension and interference with the work." In findings VIII and XVI the Court found as a fact that the appellants had sustained some loss with respect to the matters therein mentioned but also found as a fact that the amount of the loss had not been satisfactorily shown. But in findings XVII, XVIII, XIX and XX, it found that the appellants had sustained loss by reason of the suspension of the work in the aggregate amount of \$10,793.67. The Court rendered judgment in favor of the appellants on its findings XI, XII, XIII and XIV in the sum of \$4,397.24 but dis-

missed the appellants' claim as to the other items mentioned, as stated in the findings, on the authority of *Merchants Loan and Trust Co.*, 40 Ct. Cls., 117.

The question then presented by this appeal is whether on its findings, the Court of Claims should have rendered judgment for the additional items of loss amounting to \$10,793.67, which it found the appellants had sustained, and, in addition, whether as to the other items of loss sustained, some allowance should be made notwithstanding the conclusion of the court in certain of its findings, that the evidence did not satisfactorily show the extent of delay and loss sustained.

No opinion was filed in the court below but the several items of damage sustained by the appellants as found by the court, were dismissed, as stated in the findings, on the authority of the case of *Merchants Loan and Trust Company* above mentioned. Reference to that case indicates that such dismissal was on the ground that the contract with the appellants provides that no claim shall be allowed for damages sustained by reason of delays caused by the government.

In the appellants' contract there is a provision relieving the Government from responsibility for loss resulting from delay in the prosecution of the work. There is no stipulation exempting it from liability for loss resulting from a complete suspension of the work. The question therefore presented by this appeal, is whether, as matter of law, under the contract in this case and the findings of the court, "delay" in the performance of the contract, occasioned by the Government, is the legal equivalent of a complete "suspension" of the work or large parts of the work for a protracted period—whether under a contract which exempts the Government from liability for "delay,"

it is relieved from responsibility for loss resulting from "suspension" of the work, in the absence of a provision to that effect in the contract.

The proper disposition of this question renders it necessary to consider just what suspensions took place in the progress of performance of appellants' contract, what the effect of such suspensions was, and the nature and extent of the loss which resulted therefrom.

SPECIFICATIONS OF ERROR.

The judgment of the Court of Claims was erroneous in the following particulars:

1. In entering judgment in favor of the United States and dismissing the appellants' petition as to the items of claim for loss sustained by reason of the suspension of work under its contract with the Government.

2. In failing and refusing to render judgment in favor of the appellants for the additional sum of \$10,793.67, on its findings XVII, XVIII, XIX and XX, for loss sustained by the claimant by reason of the suspension of work under appellants' contract.

ARGUMENT.

The proper disposition of the legal question presented by this appeal, renders it necessary to consider just what suspensions took place in the progress of performance of appellants' contract, what the effect of such suspensions was, and the nature and extent of the loss which resulted therefrom.

APPELLANTS ENTITLED TO COMPENSATION
FOR LOSS RESULTING FROM SUSPENSION
OF OPERATIONS.

(a) *Suspension from May 8, 1897, to March 9, 1898.*

As we have stated, the Treasury Department on January 25, 1897, through the Supervising Architect's Office advertised for proposals for furnishing all materials and labor required for the installation of a boiler plant, low pressure steam heating and ventilating apparatus for the Post Office Building at Washington, D. C. The work was to be done in accordance with plans and specifications to be furnished by the Government. On February 26, 1897, the appellants a co-partnership, submitted their proposal to do this work for the sum of \$114,773.00. As a result of certain modifications, the price of the work was reduced to \$111,773.00. This was accepted and a contract was accordingly entered into on March 29, 1897, which was finally approved by the Department on April 5th, following. The time for the completion of the work called for by the contract was 250 working days after the approval of the contract, which time expired about January 28, 1898, but the work called for by the contract was not completed until August 1, 1899, approximately eighteen months after the expiration of the contract period (p. 79).

Immediately upon the award of the contract, appellants started promptly to fabricate and forward the material for the work from their Philadelphia plant, and put the necessary equipment and organization on the job, renting a shop and yard in Washington for use upon the work. They began actual work on the contract in Washington about April 18, 1897, and by

May 1, following had about forty workmen on the job (Find. IV, p. 80). On May 8th, 1897, while diligently proceeding with the work, appellants were ordered to and did suspend all of their work on the eight upper stories inclusive of the second pursuant to the following communication:

"Referring to a contract with you for the heating and ventilating apparatus for the post-office building in this city, I have to advise you that as consideration is now being given to legislation which may affect the assignment in the building named it is desired that you defer all work incident to galvanized-iron vent duct work and running steam risers for interior rooms, including and above second story. As soon as the matter of the assignment of the building is determined you will be further advised, and an allowance will be made to you of one day additional for each day's delay caused by the Government, as provided for by your contract." (Find. V, p. 80.)

Following this suspension, the entire floor plan of the building on the eight upper stories was changed and rearranged which necessitated a radical change in the work called for by appellants' contract, not only on those floors, but also in the basement of the building. (Pp. 81-4.) More than seven months later, namely, December 11, 1897, new or revised plans showing the changes in the heating system were furnished appellants who were then called upon to furnish a proposal covering the cost of the labor and material necessary to make the changes. On January 6, 1898, appellants submitted a proposal in the sum of \$4,443.00 covering the cost of these changes. On January 12th, the Supervising Architect requested appellants to show in their proposal covering these changes each item and

its value in detail, and in response an itemized statement of the cost of the changes was submitted on January 19th, showing the amount to be \$5,092.00, the increase being due to an advance in the cost of material between the date of the original proposal on January 6th and January 19th, the date of the revised proposal. On March 3, 1898, the proposal of January 19th, was accepted. On March 9, 1898, appellants were notified by the Secretary of the Treasury that in view of the acceptance of their proposal to make the changes in question, the letter of May 8, 1897, "directing the suspension of work including and above the second story became of no effect on and after the third instant [March, 1898]" (p. 81).

While the trial court found that the work affected by the order of suspension constituted a proportionately small part of the whole contract work, and that at the time of the termination of the suspension appellants had supplied materials and performed work aggregating in value about 70% of the whole contract price (p. 81), this is of no significance for the reason that the court will take notice of the fact and as will appear from the specifications that the larger part of the cost of this steam heating and ventilating system was involved in the twelve horizontal tubular boilers, stokers, pumps, heaters, fans, low pressure system, etc., (R., pp. 22-40) most of which of necessity was constructed outside of and purchased by appellants and brought into the building for installation *and is the most costly part of such an undertaking*, and of necessity was placed in the basement. As a matter of fact of the actual work to be done in the building by the appellants much the largest part was suspended almost from its beginning and until long after the contract by its terms should

have been completed. The fact also remains that out of ten stories in the building, the appellants could do no work on eight stories until the building had been erected and the rearrangement of floor spaces made in accordance with the revised design.

The trial court in its Findings states that it is unable to say how much the completion of the contract work as a whole was delayed by reason of this suspension. This is a singular statement or finding and quite inconsistent with the explicit finding of fact appearing on pages 80 and 81 of the record showing that the work on eight of the ten stories as well as some of the work in the basement had to be and was suspended *from May 8, 1897, to March 9, 1898*, the date of the order to proceed with the work according to the revised plans.

The appellants were, therefore, prevented from executing a substantial part of their contract for a period of ten months, and were not permitted to resume operations until more than a month after the date when the contract should have been completed. During all of this period of suspension, the appellants were required to maintain their organization and plant on the job at serious loss without compensation as appears from Findings XVI to XX, inclusive (pp. 86, 87).

(b) *Suspension from April 8, 1898 to May 20, 1898.*

The appellants promptly resumed operation in the execution of their contract upon issuance of the order of March 9, 1898, and while diligently prosecuting the work, were on April 8, 1898, again directed to suspend operations because of certain other contemplated general changes in the building. On April 26, 1898, appellants were furnished with revised drawings of these contemplated changes and requested to submit a proposal

covering these changes, which they did on April 28th. The proposed changes in the building effected and made changes necessary also in the work of other contractors who were likewise requested to submit proposals. As the combined amount of the proposals of the various contractors covering the changes was in excess of the available appropriation, the contemplated changes were abandoned and on May 20, 1898, appellants were directed to proceed with the work as theretofore planned. The Court finds with reference to this item that the evidence does not show either the amount of delay in the completion of the contract or what loss, if any, was sustained (p. 82, Find. VI). This we submit is inconsistent with the express finding of the dates between which the work was suspended. Certainly the appellants could not have completed the work in any event until May 20, 1898, assuming no other work was to be done, and, therefore, they are entitled to the loss during the period of suspension upon which items the court had made a finding and which are hereinafter discussed.

(c) Exclusion from First Floor from June to September, 1898.

From the latter part of June until some time in September, 1898, the Court finds the greater part of the first floor of the building was temporarily occupied and used by a force of clerks from the Treasury Department who were engaged in getting out the Spanish War Bond Issue. This occupation, according to Finding VII (R., p. 82), interfered with appellants in taking measurements, ordering and installing heating apparatus for these rooms. Here again the Court finds that the evidence does not satisfactorily show the

amount of delay in the completion of the contract resulting from these interferences with the work or what loss, if any, was sustained. We submit that this statement as to delay is inconsistent with the express finding that the material could not be ordered or installed during this period of three months, which was of course long after the expiration of the contract period.

(d) Responsibility for Eighteen Months Delay.

The Court finds that the larger part of the eighteen months which appellants were required to remain upon the job after the expiration of the contract period "*was chargeable to the United States, and it is impossible to determine from the evidence whether any part thereof was chargeable to the plaintiffs.*" (Find. X, p. 83.) This finding irresistibly leads to the conclusion that what the Court actually meant in view of the impossibility to attribute any delay to the plaintiffs, that it was chargeable to the Government. That we are correct in this assertion is borne out by the following statement appearing in said Finding, namely, that "on final settlement, the United States did not charge the plaintiff for responsibility for any part of the delay and did not charge any liquidated damages against the plaintiff." (Find. X, p. 83.)

While in Finding V (8) p. 81 relating to the period of suspension from May 8, 1897, to March 9, 1898, and Finding VI (5) relating to the suspension from April 8, 1898, to May 20, 1898 (p. 82), and Finding VII (2) relating to the appellants expulsion from the first floor of the building, the trial court finds that the evidence does not satisfactorily show the amount of the delay in the completion of the contract, which we submit is absolutely inconsistent with the fact as theretofore

found, and is also inconsistent with Findings XVII, XVIII, XIX and XX in which the Court specifically finds appellants loss upon certain items during the period the work was not prosecuted, which it finds was chargeable to the defendants. We have, therefore, the Court in one place stating inability to find the time lost while in other Findings distinctly fixing the time lost and the value of certain items of loss resulting from this interruption in the work.

THE LEGAL QUESTION INVOLVED.

As we have shown, the Court of Claims found as a fact that in addition to what may be determined the ordinary delays incident to the prosecution of the work under appellants' contract, there was practically a complete "suspension" of the work under the contract, by direction of the Government, for the aggregate period of many months. The Court also found as a fact that the appellants, by reason of such suspension, had sustained actual loss aggregating \$10,793.67 with respect to certain matters and with respect to others, while it found some loss had been sustained, it also found that the extent of such loss had not been satisfactorily shown. The legal question then is whether in view of such findings the appellant is entitled, as matter of law, to recover under their contract for the loss resulting from such suspension.

The Court of Claims by its judgment evidently concluded there was no difference between the suspension of a contract and mere delay incident to the prosecution of the work, and dismissed the claimants' petition as to items of loss resulting from the suspension of the work on the authority of the case of Merchants Loan and Trust Co., 40 Court of Claims, 117.

In the Merchants Loan and Trust case referred to, compensation was sought for loss resulting from delays in the performance of a contract with the United States doing certain work upon the post-office building in Washington. The contract in that case, after stipulating for the payment of \$100 per day as liquidated damages for each and every day the contractor took for the completion of the work beyond the time agreed upon completion, provided as follows:

"Provided, that if, through any fault of the party of the first part, the party of the second part is delayed in the execution of the work included in this contract, the party of the second part shall be allowed one day additional to the time above stated for each and every day of such delay so caused, the same to be ascertained by the Supervising Architect; provided, further, that no claim shall be made or allowed for damages which may arise out of any delay caused by the party of the first part."

In that case, as the findings made by the Court of Claims disclose, the question now presented was not involved or determined. There was no claim made that the loss for which compensation was sought resulted from a suspension of the work by direction of the Government. The findings of fact on the contrary indicate quite clearly a definite purpose on the part of the Court to eliminate from that case the effect of suspension as distinguished from the effect of mere delay. On page 123, of the opinion in that case, the Court found that the claimant, subsequent to the execution of his contract with the United States, entered into a contract with one, Grace, to do the plastering. After that contract was entered into, Grace sent men to do

the work but the condition of the building did not permit him to proceed. He was ordered to proceed on July 1st. He had hardly started when on July 15, he was ordered to "suspend" the work. On page 124, the Court found that "at the time when claimant was ordered to suspend work the building was in such condition that it was impossible to proceed further even by doing the work that claimant had been doing in the basement." It thus appears that the Court took care to find as a fact that in the single instance referred to in the case where the effect of a "suspension" of the work was involved, that the claimant was not injured or delayed thereby, but that the "building was in such condition that it was impossible to proceed further *even* by doing the work that claimant had been doing in the basement." The Court also found:

"Because of delay of the Government in *letting contracts* for other work, the *condition of the building* was such that the claimant could not proceed with his work and he was delayed in the commencement and prosecution of the work, and because of the *delay* and hinderance *above set forth*, the claimant did not complete his work until a year after the expiration of the contract time."

That is a specific finding that the loss to the claimant in that case did not result from a complete "suspension" of the work by the action of the Government, but resulted solely "because of the delay of the Government in letting contracts for other work." Delay in performance resulting from failure to let other contracts on time is undoubtedly one of the delays contemplated by the parties to the contract in that case. But since no claim was made in that case that the loss

to the claimant resulted from a suspension of the work, since the Court found that the single suspension mentioned did not as matter of fact occasion the claimant any delay or loss, and as to the question whether "suspension" and "delay" are legally synonymous, the Merchants Loan and Trust Company case is not in point and should not, and we submit, does not control the question presented by this appeal.

The stipulation in the contract in this case is in precisely the same words as the stipulation in the contract in the Merchants Loan and Trust Company case. In both cases, we submit, the stipulation was intended merely to protect the Government against "delays." What is then meant by the word "delay" as used in the contract? The word should and of course will receive a reasonable construction, a construction apparently contemplated by the parties when entering into the contract, and so construed it means, we submit, the ordinary delays likely to occur in the prosecution of the work, such as delays of other contractors in the performance of their work, delays resulting from strikes, fires, or unavoidable casualty; in short, from any of the many causes that may occur in the execution of a contract which may delay, but not completely suspend, the performance of the work. And while the term may and probably does protect the Government from delays, regardless of length and regardless of reasonableness, when occasioned by the acts of others, there is clearly a legal limit to delays which the Government itself may cause, and that limit is their reasonableness. Delays caused by the action of the Government, as for instance, delays occasioned by reasonable modification of plans, would not subject the Government to liability,

but unreasonable delays from the Government's own act, such as those resulting from protracted suspensions of performance of the work, would not be justified or protected.

Reference will no doubt be made by the defendant to the opinion of this Court in the case of Wells Brothers Company vs. The United States (254 U. S., 83), decided by this Court since the judgment was rendered by the Court of Claims in this case. In that case a contract was entered into with the United States for the construction of a post-office and court house in New Orleans. On the day after the contract was signed, performance of work under the contract was suspended by order of the Government, and after the order of suspension, the claimant rendered its obligation complete under its contract by executing the necessary bond. In that case the contract stipulated that "the United States shall have the right of *suspending* the whole or any part of the work herein contracted to be done." Notwithstanding that stipulation the claimant sought to recover compensation for loss sustained by reason of suspensions of the work, and this Court quite naturally held that the claimant was bound by his clear agreement and that no recovery could be had. But as will be noted, in that case there was an express stipulation against liability resulting from a "suspension" of the work. There was no such stipulation in the contract in this case. In the Merchants Loan and Trust Company case there was no stipulation against loss resulting from "suspension" but merely against "delay." The claimants in this case sustained loss by reason of the "suspension" of work under their contract but there is no stipulation in their contract relieving the Government from responsibility for loss re-

sulting from such "suspension." The Court of Claims case is therefore not in point because, in that case, the matter of delay merely was involved and considered, there being no stipulation regarding suspension. The Wells Brothers' case is not in point because in that case the loss resulted from a suspension of the work, and the contract contained an express stipulation relieving the Government from responsibility therefor.

If "delay" and "suspension" are in fact synonymous, from a legal point of view, which we deny, nevertheless the contract does not protect the Government against unreasonable delay when such delay is not merely an incident to the *performance* of the work but results from its complete suspension by the Government's own act, as in this case. If the Government had the right, under this contract, and without responsibility for resulting loss, to suspend the work on the contract for one month or for one year, it also had the right to suspend it for five years or indefinitely, and we submit that cannot be so. But the right of suspension was not contemplated by the parties to this contract. It would seem, from the difference in the provisions in the contract in the Merchants Loan and Trust case and in the Wells Brothers Company case, that the Government, finding the contract in the former case did not protect it against loss resulting from a complete suspension of the work by its direction, by its later contracts, as in the Wells Brothers case, inserted in its contracts an express exempting clause covering suspension.

To delay, means to hinder, deter, detain, keep back, retard. "Suspension" means a great deal more. It means to absolutely close, to stop, to shut down. While "suspension" necessarily involves delay, and is there-

fore sufficiently comprehensive to include it, reasonably interpreted, the word "delay" as used in this contract is not sufficiently comprehensive to include "suspension." In one case the work may justly be said to be still in the course of prosecution and the delay is merely incident thereto, but in the other case, the work wholly ceases. In one case, other contractors may be engaged in securing men, arranging for materials, preparing material to be placed in the building, although no actual work is being done on the building itself, and this may delay the prosecution of the work, but the work is not suspended. Other contractors may in fact be engaged upon work in the building itself—the work is actually being prosecuted—and yet, as in the Merchants Loan and Trust Company case, a particular contractor may be delayed in the execution of his contract because the other work being done has not been sufficiently advanced. But such contractor would be delayed merely,—the execution of his contract would not be suspended.

The appellants' contract excuses "delay" in execution, not prevention of execution. The language of the contract is, "*delayed* in the execution." Under a contract which expressly stipulates for complete performance of work in 250 days, as in this case, is a complete suspension of the work for 342 days a mere "delay" in its execution within the meaning of the clause exempting the Government from responsibility therefor? We submit not. And even if it were a mere "delay," it certainly would not be a reasonable delay, and against unreasonable delays the contract does not relieve the Government.

The very serious effect of a suspension of the work, as distinguished from a mere delay, is apparent. In

the case of a suspension of the work for a specific period, a contractor, at much less loss, might remove his equipment, men and material and use them elsewhere, but where a suspension occurs, as in this case, *wholly indefinite in extent*, when its duration was not and could not be known or anticipated, it was necessary for the appellant to remain on the job with his equipment, plant and a large force of skilled men. During the period of suspension in this case, the appellants, in order to maintain their organization, were required to use skilled labor on unskilled work and to seek other contracts in Washington in order to keep their men there ready to resume work when the suspension should be removed. Skilled mechanics were brought to Washington from Philadelphia under agreements which required appellants to pay them skilled wages for full time until the work in their respective lines should be completed. (Finding XVI, p. 86.) And when such a condition continues indefinitely—for many months as in this case—it is destructive and so grossly unreasonable and unfair as to exclude the application of the discharging clause of the contract in this case when fairly interpreted.

The provision in the appellants' contract for the allowance of one day additional for each day of delay, clearly could not and as clearly was not intended to compensate for a delay incident to an indefinite suspension of work under the contract. That provision was obviously intended to meet the ordinary delays incident to the actual execution of the work and not its prevention. In the specifications, under the heading "Time to Complete," it is specifically provided that the bidder must state in his proposal the time within which he will complete the entire work, which, in no

event, should exceed 250 working days. The specification then proceed with the statement, "It is, however, the intention of this contract, that *all* work contemplated by same and required to be done in the rooms of the first and mezzanine stories and the toilet and south rooms of the basement, all of which is to be used by the Post Office, must be done by July 1st, 1897, and that by October 1, 1897, the entire work must be sufficiently advanced so that the aforesaid rooms can be permanently heated and the rest of the building be supplied with temporary heat." (Rec., p. 22.) As a matter of fact the work on the eight upper stories and in parts of the basement was suspended by the Government until long after that date. We have, therefore, a stipulation and a statement on the part of the Government that the time for doing the work must not exceed 250 working days. This is a clear limitation of the time for the complete performance of the work. It required the appellants under severe penalty to be prepared to complete the work within such time limit, and it fairly denies the right of the Government by a suspension of the work, to extend the time of its performance beyond such period.

CONCLUSION.

In conclusion, we submit, the Court of Claims erred in dismissing the appellants' claim for loss sustained by reason of the suspension of the work on the authority of the Merchants Loan and Trust Company case, and that this case should be remanded to the Court of Claims with direction to enter judgment in favor of the appellants, in addition to the amount of the judgment rendered, for the sum of \$10,793.67, the amount of the loss which the Court in its Findings

XVII, XVIII, XIX and XX, found the appellants sustained by reason of the suspension of its contract.

Respectfully submitted,

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Of Counsel.

In the Supreme Court of the United States.

OCTOBER TERM, 1921.

CHARLES F. WOOD AND JOHN L. MOYER, trading as the Philadelphia Steam Heat- ing Company, appellants, <i>v.</i> THE UNITED STATES.	}	No. 100.
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APPEAL FROM THE COURT OF CLAIMS.

BRIEF FOR THE UNITED STATES.

STATEMENT.

On November 21, 1899, claimants filed their petition in the Court of Claims for \$63,099.10, damages alleged to have been sustained by claimants through certain delays in the performance of their contract with the United States for furnishing and installing a heating and ventilating plant in the post-office building at Washington, D. C. It was alleged the United States was responsible for the suspensions and delays in the completion of the contract, and should answer for the damage sustained.

On January 25, 1897, the United States, through the Office of the Supervising Architect of the Treasury Department, advertised for sealed proposals for the furnishing of all material and labor for, and the installation of, a boiler plant, low-pressure steam heating and ventilating apparatus, etc., for the United States post-office building at Washington, D. C., in accordance with plans and specifications referred to in said advertisement. (R. 79.)

The Philadelphia Steam Heating Company of Philadelphia, Pa., a partnership, consisting of Charles F. Wood, John L. Moyer, and another, on February 26, 1897, submitted a proposal to supply the material and perform the labor for the sum of \$114,773, which proposal, with certain modifications and a consequent reduction of the price to \$111,373, was accepted, and a contract therefor executed on March 29, 1897, and approved April 5, 1897. (R. 79.)

The time allowed by the contract for the completion of the entire work was 250 working days after the approval of the contract and bond, which period expired on January 28, 1898. (R. 79.) The work was substantially completed about August 1, 1899, approximately eighteen months after the expiration of the contract period, and was accepted on behalf of the United States in September, 1899. (R. 79.)

The contractor began work on the contract in Washington on or about April 18, 1897, and by May 1, 1897, had about forty workmen employed thereon. (R. 80.)

On May 8, 1897, the contractor received written notice from the Secretary of the Treasury to "defer all work incident to galvanized-iron vent duct work and running steam risers for interior rooms, including and above second story." The contractor was also advised that "an allowance will be made to you of one day additional for each day's delay caused by the Government, as provided for by your contract." (R. 80.)

On May 13, 1897, the contractor wrote the Supervising Architect as follows:

We beg to advise you that on May 11 we received verbal instructions from Mr. John W. Kinsey, superintendent of construction at the U. S. post office, Washington, D. C., to cease work on the galvanized-iron work in said building in the basement until such time as the plasterer shall have finished his work. These orders, together with those contained in the department letter of May 8, stop this branch of our work entirely. We are not objecting to this, but we desire to call the department's attention to the matter in order that we may be entitled to extra time should we be unable to complete the work within the time named in our contract.

Following the suspension of that part of the work referred to, certain changes in the plans were made and the revised plans furnished the contractor with a request for a proposal covering said changes. The contractor on January 6, 1898, submitted proposal covering the changes and on January 19, 1898, sub-

mitted itemized statement of the increased cost. On March 3, 1898, the Assistant Secretary of the Treasury advised the contractor that the proposal was accepted, and on March 4, 1898, the contractor was instructed to proceed with the work. (R. 81.)

The Court of Claims, in its findings of fact, found that the work affected by the order of suspension on May 8, 1897, constituted a proportionately small part of the whole contract work, and that at the time of the termination of the suspension the contractor had supplied materials and performed labor aggregating in value about 70 per cent of the whole contract price. The court further found that the evidence does not show how much the completion of the whole contract work was delayed, nor what loss the contractor sustained by reason of said suspension and delay in the work. (R. 81, pars. 7 and 8.)

On April 8, 1898, the contractor was informed that certain changes in the plans of the building were under consideration, and was directed to suspend until further notice such part of the work as might be affected thereby. Subsequently, revised drawings showing the contemplated changes were forwarded to the contractor with a request that a proposal for the extra work involved be furnished. The proposed changes were subsequently abandoned, however, and on May 20, 1898, the contractor was directed to proceed with the work in accordance with the original plans. The Court of Claims found that the evidence does not satisfactorily show either the

amount of the delay in the completion of the contract, or what loss, if any, the contractor sustained by reason thereof. (R. 82, Find. VI.)

The court also found that in addition to the suspensions and delays hereinbefore referred to, there were numerous delays in different items of the work, some of which were chargeable to the contractor and some to the United States, but that the evidence submitted does not satisfactorily show how much loss was sustained by the contractor from such delays. (R. 83, Find. IX.)

On final settlement of the contract the United States did not charge the contractor with responsibility for any part of the delay or delays, and did not charge any liquidated damages on account of the delay in the completion of the contract. The time for the completion of the contract was extended a day for each day of delay caused by the United States. (R. 83, Find. X.)

After completion of the contract it was found that some of the work was defective and had not been performed in accordance with the specifications, which defects were subsequently remedied by the contractor. In some instances the material furnished and work done in substantial compliance with the specifications had to be changed or done over at a considerable additional cost to the contractor. Claim for this additional loss was included in claimants' petition, and the Court of Claims found there was due claimants for such extra labor and material the sum

of \$4,397.24. (R. 84-85, Find. XI, XII, XIII, and XV.)

The Court of Claims, accordingly, entered judgment in favor of claimants for \$4,397.24, and dismissed the petition as to the balance claimed. (R. 87.) From this judgment claimants appeal to this court.

ARGUMENT.

Appellants ask that the judgment of the Court of Claims be set aside and the case remanded with directions to enter judgment in favor of claimants for the several amounts mentioned in findings, XVII, XVIII, XIX, and XX. (R. 86-87.)

The findings above mentioned read as follows:

XVII.

1. The value of the services of the plaintiff Charles F. Wood, on the contract work during the time of the delay chargeable to the defendants in the completion of the work was \$4,000; and the value of the services of their foremen, Healey and McClintock, on the work during such delay was \$2,330.

XVIII.

1. The plaintiffs rented and maintained a yard and shop in Washington with necessary equipment for use in their work in Washington. The rental of the yard and shop fairly chargeable to the plaintiffs' work on the post-office building during the period of delay caused by defendants in the completion of the contract was \$400; and the reasonable value of the use of the equipment on this work during such period of delay was \$800.

XIX.

1. The plaintiffs' overhead expenses chargeable to delay caused by defendants in the completion of the work, not including the items of cost shown by Findings XVII and XVIII above, was \$5,975.02.

XX.

1. The plaintiffs expended, for carrying on the work, the sum of \$2,088.65, as interest on money borrowed by them after the expiration of the contract period, which expenditure would not have been necessary but for the delay in the completion of the work caused by the defendants.

All of the several amounts now claimed by appellants, as set forth in the above findings, are for damages sustained by appellants through delays caused by the United States in the completion of the contract work.

The contract involved in this action provided that for any delay caused by the United States, the contractor should be allowed a corresponding extension of time in which to complete the work, but that no claim for damages shall be made by the contractor on account of such delay.

The contract provided "that the entire work shall be completed within two hundred fifty (250) working days from the date of the approval of the bond," and that:

The said party of the second part shall forfeit to the said party of the first part one hundred (100) dollars per diem, as liquidated

damages, for each and every day thereafter until the completion of the same; provided, that if through any fault of the party of the first part, the party of the second part is delayed in the execution of the work included in this contract, the party of the second part shall be allowed one day additional to the time above stated for each and every day of such delay so caused, the same to be ascertained by the Supervising Architect; provided, *that no claim shall be made or allowed for damages which may arise out of any delay caused by the party of the first part.* (R. 64-5.)

The contract also contained the following provision:

It is further covenanted and agreed by and between the parties hereto that the said party of the second part will make any omissions from, or additions to, the work or materials herein provided for whenever required by said party of the first part; the valuation of such work and materials, if not agreed upon, to be determined on the basis of the contract unit of value of material and work referred to; or, in the absence of such unit of value, on prevailing market rates; which market rates, in case of dispute, are to be determined by the said Supervising Architect, whose decision with reference thereto shall be binding upon both parties; *and that no claim for damages, on account of such changes or for anticipated profits, shall be made or allowed.* (R. 65.)

The only question raised by the appeal to this court is whether, in view of the contract provisions above quoted, the United States is answerable in

damages for delays caused by the Government in the final completion of the contract.

This question was decided by this court at the October term, 1920, in *Wells Bros. Co. v. United States* (254 U. S. 83), wherein the court had under consideration contract provisions identical with those now presented. In that case, this court used the following language (p. 87):

Here is a plain and unrestricted covenant on the part of the contractor, comprehensive as words can make it, that it will not make any claim against the Government "for *any damages* which may arise out of *any delay* caused by the United States" in the performance of the contract, and this is emphasized by being immediately coupled with a declaration by the Government that if such a claim should be made it would not be allowed.

Such language, disassociated as it is from provisions relating to "omissions from," and making of, "additions to, or changes in," the work to be done, or "materials" to be used, can not be treated as meaningless and futile and read out of the contract. Given its plain meaning it is fatal to the appellant's claim.

Appellants, in their brief, endeavor to draw a distinction between a *suspension* and a *delay*, contending that while the contract may not allow damages for delays, it does not provide against damages for a suspension of part of the work. This is a distinction without a difference. The evident intent of the contracting parties was to provide for delay in the com-

pletion of the contract work, and the compensation allowed the contractor by the terms of the contract was additional time for the completion of the contract equal to the delay or delays caused by the United States. It is specifically provided by the contract that the contractor shall not make claim for nor be allowed damages for such delay or delays. It is immaterial whether the delay in the final completion of the contract was caused by a mere retarding of the contractor in the execution of the contract, or whether it was caused, as in this case, by a suspension for a time of part of the work. In either event it would result in a delay in the final completion of the entire contract, and the compensation allowed the contractor for such delay, when caused by the Government, is an extension of the contract period equal to such period of delay.

While the entire delay in the completion of the contract was caused by the suspensions complained of, such suspensions related to but a small part of the contract.

The Court of Claims found that approximately 70 per cent in value of the entire contract had been performed at the time of the termination of the suspension of May 8, 1897. At no time during the execution of the contract was the entire work suspended or the entire force of workmen compelled to cease work by reason of any suspension caused by the Government.

It is clearly apparent, therefore, that it is immaterial whether the delay in the final completion of the

contract was due to suspension for a time of part or parts of the work to be performed, or whether the same was due to obstructions to the performance of the contract, for which the Government was responsible.

The contract under consideration by this court in *Wells Bros. Co. v. United States*, *supra*, as quoted in the opinion (pp. 85, 86) contained the following stipulation, namely, "That no claim shall be made or allowed to the contractor for any damages which may arise out of any delay caused by the United States," and further, that, "No claim for damages, on account of such changes or for anticipated profits, shall be made or allowed."

The above quoted language is practically identical with the provisions of the contract now before this court, and it is submitted therefore that the decision in *Wells Bros. Co. v. United States* is decisive in this case.

CONCLUSION.

It is respectfully submitted that the judgment of the Court of Claims should be affirmed.

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Solicitor General.

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HARVEY B. COX,
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vided that no claim shall be made or allowed for any damages which may arise out of any delay caused by the United States. Suspension by the Government is one of several possible causes of delay—and not an uncommon one.

Moreover, when the contractor was first directed to suspend work, he replied: "We are not objecting to this, but we desire to call the department's attention to the matter in order that we may be entitled to extra time should we be unable to complete the work within the time named in our contract." So far as appears no protest was ever made against the prolonged suspension; nor was there any claim made of a right to damages arising therefrom until it was asserted in this suit.

Affirmed.